

**Pilot Test of a Quality Rating and Improvement System  
in Early Education Programs  
in Magadan Oblast, RU and in Minnesota, USA**

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13 December, 2021

For the 2021 Children of the North conference,  
Petrozavodsk State University, Karelia, Russian Federation

## ABSTRACT

Quality in early childhood education matters. Scholarly research has demonstrated the critical importance of the first three years of a child's life. The experiences and interactions children have in these early years significantly affects brain development and helps to establish the foundation for future learning. The topic of this study was to pilot test a Quality Rating and Improvement System (QRIS) in early education programs in Magadan, Russian Federation (RU) and in Mankato, Minnesota, United States of America (USA). The purpose of this study was to understand the use of a specific instrument to provide direction for the improvement of the quality of the learning environments in early childhood classrooms in two countries.

Investigators hypothesized that the selected QRIS will be reliable for reviewers of programs in the two countries. This project examined two questions: 1. Is the Global Guidelines Assessment (GGA) useful to compare early childhood education in Magadan, RU and early childhood education programs in Mankato, Minnesota, USA? 2. What is the level of agreement among reviewers in the US and in Russia, using scores on the GGA for one early childhood education program in Magadan, RU and for one early childhood education program in Mankato, Minnesota, USA? The study included translation of the Global Guidelines Assessment (GGA) into Russian. One quality review (with multiple reviewers) was completed for one early education program in each country. Completed reviews by eleven 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 Russia and in the US. As a result of this investigation, this study concluded that the Global Guidelines Assessment will be useful for comparing early childhood education programs in Magadan, Russian Federation and in Minnesota, USA 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 Russia as well.

**Key words:** early childhood education; quality rating and improvement scales; United States; Russian Federation.

## **INTRODUCTION**

Quality in early childhood education matters. Scholarly research has demonstrated the critical importance of the first three years of a child's life. The experiences and interactions children have in these early years significantly affects brain development and helps to establish the foundation for future learning. The topic of this study was to pilot test a Quality Rating and Improvement System (QRIS) in early education programs in Magadan, Russian Federation (RU) and in Mankato, Minnesota, United States of America (USA).

The purpose of this study was to understand the use of a specific instrument to provide direction for the improvement of the quality of the learning environments in early childhood classrooms in two countries. Investigators hypothesized that the selected QRIS will be reliable for reviewers of programs in the two countries. This project examined two questions: 1. Is the Global Guidelines Assessment (GGA) useful to compare early childhood education in Magadan, RU and early childhood education programs in Mankato, Minnesota, USA? 2. What is the level of agreement among reviewers in the US and in Russia, using scores on the GGA for one early childhood education program in Magadan, RU and for one early childhood education program in Mankato, Minnesota, USA? The study included translation of the Global Guidelines Assessment (GGA) into Russian.

## **LITERATURE REVIEW**

Scholars generally agree there are at least five elements of quality for early education programs: providers and caregivers, organization and administration, curriculum and instruction, environments, and parent and community involvement. 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, & Underhill, 2006; Kontos et al., 2002; Pianta et al., 2005). Other researchers have shown that quality has an impact on children's school readiness and learning skills (Ceglowski, 2004; Fontaine et al., 2006; 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; Fontaine et al., 2006; Kontos et al., 2002; Peisner-Feinberg et al., 2001; Pianta et al., 2005; Raver et al., 2008).

Those elements of quality, in turn, influence the development of young children by enhancing: social and emotional development, cognitive competence, language skills, physical well-being, and school readiness (Mashburn et al., 2008; Pianta et al., 2005).

Jalongo et al. (2004) focused on the consequences of high-quality programs in early education. They concluded that high quality programs are an “immediate necessity” for very young children. The authors found that quality programs in Africa, Europe, India, and the United States all: (1) had strong, foundational philosophies and goals, (2) developed high-quality physical environments, (3) had curriculum and pedagogy appropriate to child development, (4) met children’s basic needs, (5) included families and community, (6) provided trained and professional teachers, and (7) conducted program evaluation.

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, Howes, Burchinal, Bryant, Clifford, & Early, 2005).

### ***Quality Rating and Assessment Tools***

Among early childhood advocates, there has been no single definition of high quality and no single measurement tool to determine quality in early childhood education. There are several instruments that are valuable in assessing the quality of programs. A review of literature resulted in the conclusion that there were five quality rating and improvement system instruments that were most commonly available and used in early childhood education in North America. 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

***National Accreditation.*** Accreditation by a national (or international) organization is a voluntary process by which early education programs can improve and demonstrate their level of quality to families and communities. Programs need to complete an extensive self-study and participate in an external validation process established by the national organization. Some common standards include learning environment, teacher/child interactions, staff qualifications, professional development, and family involvement (NAEYC, 2021; NAFCC, 2021).

***Classroom Assessment Scoring System (CLASS).*** This measurement assesses teacher/child interaction that have an impact on child development. The scores provide evidence of quality in

several domains: quality of relationships, routines, physical environment, and use of language (Pianta & Downer, 2006).

**Early Childhood Environment Rating Scales (ECERS).** The ECERS and related materials are standardized instruments intended to measure quality in the early education classroom. This measurement rates programs on seven subscales: space and furnishings, personal care routines, classroom activities and interactions, and family engagement (Harms, Clifford, & Cryer, 2003).

**Global Guidelines Assessment (GGA).** This is a quality rating and improvement system (QRIS) for use by early childhood education programs throughout the world. The GGA is designed to assess, improve, and communicate the level of quality on multiple elements, such as family engagement, program management, classroom environments, etc. (Association for Childhood Education International, 1999). The current GGA contains 88 items across five early childhood care and education program areas: (a) Environment and Physical Space; (b) Curriculum Content and Pedagogy; (c) Early Childhood Educators and Caregivers; (d) Partnerships with Families and Communities; and (e) Young Children with Special Needs. 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 (Worhan, 2003).

Table 1. Comparison of Quality Rating and Improvement Scales

Instrument	\$ and time	R	# Items	Process of Review	Languages Available
NAEYC accreditation	*	X	400	Self-study + external review	English & Spanish
NAFCC accreditation	**	X	289	Self-study + external review	English & Spanish
CLASS self-study	***	X	30	Self-study + external review	English & Spanish
ECERS self-study	****	X	43	Self-study	13 languages
GGA-ACEI self-study	*****	X	88	Self-study	10 languages

One star indicates less useful QRIS (due to high cost and lots of time). Five stars indicates a very useful QRIS (due to low cost and less amounts of time).

## METHODOLOGY

### *Settings*

The specific locations for this research (Russia and the USA) were selected because of a pedagogical partnership between North-Eastern State University in Magadan and Minnesota State University, Mankato. This pedagogical partnership includes joint curriculum development for initial teacher licensure programs. Faculty members in both universities would like to understand early childhood education programs in the other regions so that they can develop sensible joint curriculum.

Table 2. Country Population Statistics

	Russian Federation	Magadan Oblast	United States	Mankato, Minnesota
Population	140,702,100	107,500	283,000,000	42,500
Children Age 0-14	21,611,000	14,700	60,420,000	7,200
Early childhood education enrollment	7,811,000	8,200	7,200,000	4,400

Magadan Oblast, Russian Federation is in the area known as Russia's Far East. This area is 11 time zones east of Moscow, the capital of the Russian Federation. Magadan, the principle city and the location for the Russian program under review, has a population of approximately 107,500. Minnesota, United States is in the area known as the Midwest. This area is one time zone west of Washington, DC, the capital of the United States. The main city of interest for this study is Mankato, with a population of approximately 42,500.

The programs that were selected had similar formats for children aged three and four years old. Each program was licensed by the appropriate governmental agency. Each program had a partnership with the nearby university to prepare teachers for early childhood education.

Golden Key Kindergarten

- ♦ Government-sponsored
- ♦ Serves urban area

- ♦ Diverse SES
- ♦ Family tuition
- ♦ 189 children enrolled
- ♦ Children meet in multi-age groups
- ♦ Program available for 12 months
- ♦ Serves children from 1 – 7 years

#### Golden Heart Child Care Center

- ♦ Business-sponsored
- ♦ Serves 2 counties
- ♦ Average SES
- ♦ Family tuition & business funds
- ♦ 116 children enrolled
- ♦ Children meet in single-age groups
- ♦ Program available 12 months
- ♦ Serves children from 6 weeks – 6 years

### *Sample (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 3. Research Sample Characteristics

Positions of Reviewers	RU Golden Key	US Golden Heart	Total
Directors/Assistants	1	1	2
Teachers	2	1	3
University Faculty	0	1	1
University Students	2	2	4
Other (curriculum)	1	0	1

Total	6	5	11
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Table 4. Characteristics of Reviewers

Characteristic	Specific	RU Golden Key	US Golden Heart
Gender	Female	6	4
	Male	0	1
Education	Secondary	0	0
	Some College	2	2
	Bachelor's Degree	3	2
	Master's Degree	1	1

### *Measurement Instrument*

Based on the literature review, this study selected the Global Guidelines Assessment as the QRIS. The rationale included:

1. The GGA is available free from ACEI.
2. The GGA has been researched for reliability and validity.
3. The GGA is not very long. It includes 88 items organized into five sections.
4. The GGA is designed as a self-study process for program staff and administrators. It does take much time to complete the review.
5. The GGA is designed for use in many cultural settings and for implementation throughout the world.

Table 5. Organization of Global Guidelines Assessment – ACEI

Assessment areas		# sub-categories	# of items	Possible score
Area 1	Environment	2	19	95
Area 2	Curriculum Content	6	17	85
Area 3	Educators & Caregivers	3	13	65



Area 4	Families & Communities	8	24	120
Area 5	Special Needs	4	15	75
		23	88	440

Figure 1.

**ACEI GLOBAL GUIDELINES ASSESSMENT (GGA)**  
ADAPTED FROM THE  
GLOBAL GUIDELINES FOR THE EDUCATION AND CARE OF YOUNG CHILDREN IN THE 21<sup>ST</sup> CENTURY

**AREA 1: ENVIRONMENT AND PHYSICAL SPACE**  
The young child's learning environment must be physically and psychologically safe. Physical safety includes the need to protect the child from health hazards that prohibit the child's ability to learn and develop. The need to address the child's psychological safety implies that the overall environment should instill a sense of belonging and well-being for all children. The physical space should be organized to provide a variety of learning experiences for all children of different races, gender, ethnicity, or special needs. Resources within the environment should reflect the cultural experiences and traditions of the children and families using the program. Overall, the safe environment should empower the child by providing opportunities for exploration, play, and practicing life skills.

**Subcategory: Environment and Physical Space**

1. The environment and physical space are free from hazards, including unsafe equipment, pollution, and violence.

Classroom Examples: \_\_\_\_\_

☐ excellent  
☐ good  
☐ adequate  
☐ minimal  
☐ inadequate  
☐ not evaluable

Comments: \_\_\_\_\_

2. The environment provides basic sanitation, safe and nutritious food, potable water, and adequate ventilation.

Classroom Examples: \_\_\_\_\_

☐ excellent  
☐ good  
☐ adequate  
☐ minimal  
☐ inadequate  
☐ not evaluable

Comments: \_\_\_\_\_

Figure 2.

**ACEI Оценка деятельности образовательного учреждения на основе «Глобального Руководства» (ОГР)**  
Документ разработан на основе «Глобального руководства по образованию и заботе о детях в 21-ом веке».

**Сфера 1. Окружающая среда и физическое пространство.**

Для детей обучающая среда должна быть физически и психологически безопасной. Физическая безопасность включает в себя защиту ребенка от различных угроз для его здоровья, которые могут помешать его обучению и развитию. Психологическая безопасность включает в себя создание благоприятной окружающей среды для развития у ребенка чувства принадлежности и благоприятного пребывания в группе.

В процессе обучения физическое пространство должно предоставлять возможности для различных видов деятельности детей различных рас, этнического происхождения, пола, детей с особыми нуждами. Ресурсы окружающей среды должны отображать культурный опыт, традиции детей и их семей на основе используемой в учреждении программы воспитания и обучения. В целом, безопасная окружающая среда должна предоставлять детям возможность для новых открытий, проведения исследований, игр, позволять детям практиковать их жизненные знания, умения и навыки.

**Окружающая среда и физическое пространство**

1. Окружающая среда и физическое пространство исключают опасность, неисправность оборудования, загрязнение окружающей среды и жестокое обращение по отношению к детям.  
Пример из жизни класса: \_\_\_\_\_

☐ Отлично  
☐ Хорошо  
☐ Адекватно  
☐ Минимально  
☐ Неадекватно  
☐ Неизвестно

Комментарии: \_\_\_\_\_

2. Окружающая среда соответствует необходимым санитарным требованиям, гарантирует здоровую и полноценную пищу.

☐ Отлично  
☐ Хорошо  
☐ Адекватно  
☐ Минимально  
☐ Неадекватно  
☐ Неизвестно

Комментарии: \_\_\_\_\_

## Data Collection

After translating the GGA materials into the Russian language, cooperating reviewers in Magadan and in the US collected data about the two early childhood education programs. The

researchers followed ACEI's recommendations for standard instructions and conditions under which the study occurred. This process recorded general comments, instructions for making ratings, for writing examples, and for making comments. The GGA procedures noted, "It is very important that you write in examples and comments that support your ratings. We need this evidence to help us find out if the content areas in the assessment tool are really measuring the content areas correctly."

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.

### ***Data Analysis***

Numerical data, consisting of the rating scale results, were assigned numeric values of 0 (not available), 1 (inadequate), 2 (minimum), 3 (adequate), 4 (good), and 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. Statistical analyses were generated in SPSS 14.0 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 (using Cronbach's alpha) was examined to understand the extent to which different reviewers found similar results when independently assessing the program under review.

The data analysis used the intraclass correlation coefficient to examine the interrater reliability for each program area and for the total GGA.

## **RESULTS**

- ♦ What QRIS will be useful for learning about early childhood education programs in Russia and early childhood education programs in USA?
- ♦ What is the agreement among quality reviewers in Russia and in the USA, using scores on the selected QRIS?

The response to the first research question was dependent on the literature review and the reliability analysis to respond to the second research question.

Based on the literature review, the GGA should be most useful for learning about the quality of early childhood education programs in Russia and in the USA. There were several reasons for this:

1. The GGA is available free from ACEI.
2. The GGA has been researched for reliability and validity.
3. The GGA is not very long. It includes 88 items organized into five sections.
4. The GGA is designed as a self-study process for program staff and administrators. It does take much time to complete the review.
5. The GGA is designed for use in many cultural settings and for implementation throughout the world.

Table xx presents the intraclass correlation coefficients calculated for the reviewer group in Magadan and for the reviewer 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.

Out of a total of 440 possible points, the mean GGA score among 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 researcher because it implies that internal and external reviewers reach similar conclusions about excellent early childhood programs, regardless of location.

In this study, very high correlations were found: .995 among the Russian reviewers and .987 among the American reviewers. The study results indicate that the researchers may be 95% confident that the actual intraclass correlation coefficient is somewhere between .983 and .999 in Magadan and .958 and .988 in the US. This suggests that there may be great certainty associated with the results of this study.

Table 6. Individual Reviewers' Area Scores and Total Scores on GGA, with Group Means

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	384.0
Russian 2	86	74	64	98	63	385	
Russian 3	95	84	65	116	71	431	
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	383.4
American 2	89	79	65	120	75	428	
American 3	91	72	46	90	60	359	
American 4	89	65	60	101	68	383	
American 5	72	66	52	88	50	328	

Table 7. Inter-rater Reliability  
(Cronbach's alpha Intraclass Correlation Coefficient)

Reviewer Group	Cronbach's alpha	95% confidence interval	
		Lower Bound	Upper Bound
Russia n = 6	.995	.983	.999
USA n = 5	.987	.958	.988

## DISCUSSION

For this study, the investigators used the GGA to review early childhood education programs in Magadan Region, Russian Federation and early childhood education programs in Minnesota, USA. Cronbach's alpha was used to determine the intraclass reliability of the instrument under investigation. Based on the results, this study concluded that the GGA will be useful for comparing early childhood education programs in Magadan, Russia and in Mankato, Minnesota, because the GGA is reliable, easy and affordable to use for quality improvement of early education throughout the world.

This study also concluded that there was excellent inter-rater agreement among reviewers in Magadan and in Mankato, Minnesota, using scores on a QRIS for early childhood education programs. The reliability of the GGA and its related document was illustrated by this research study. Now, the GGA and its related documents are available in the Russian language free 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 Russia for purposes of improvement of quality of early childhood education programs. This study showed the success of the translation of the GGA and related materials into the Russian language.

## **CONCLUSION**

One quality review (with multiple reviewers) was completed for one early education program in each country. Completed reviews by eleven 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 Russia and in the US. As a result of this investigation, this study concluded that the Global Guidelines Assessment will be useful for comparing early childhood education programs in Magadan, Russian Federation and in Minnesota, USA because the GGA is easy, affordable, and reliable to use for quality improvement of early education throughout the world. The GGA may be used as a reliable instrument to assess early education programs. Therefore, this study serves as an important foundation for future investigations with Russian-speaking programs.

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- Zhu-Jiaxiong, & Zhou-Nianli. (2005). A survey of current Shanghai early childhood education through kindergarten directors' self-assessment. *International Journal of Early Years Education*, 13(2), 113-127.

## **Acknowledgements**

- ♦ Elizabeth Sandell PhD, Ronald Browne PhD, Peg Ballard, PhD, and Steven Reuter PhD, Mankato, Minnesota, USA.
- ♦ Olga Victorovna Klypa PhD, Elena Alexandrovna Shkatova PhD, and Svetlana Alexandrovna Yakimshuk PhD, Magadan Oblast, RU.
- ♦ Undergraduate Research Assistants in Russia and the US.
- ♦ College of Education, Minnesota State University, Mankato, Minnesota, USA.
- ♦ College of Graduate Studies and Research and the Center for Excellence in Scholarship and Research, Minnesota State University, Mankato, Minnesota, USA.
- ♦ Global Guidelines Task Force, Childhood Education International, Washington, DC, USA