# CHILD CARE QUALITY INDICATOR SCALE

A new tool for parents as they go about selecting the best child care setting for their children
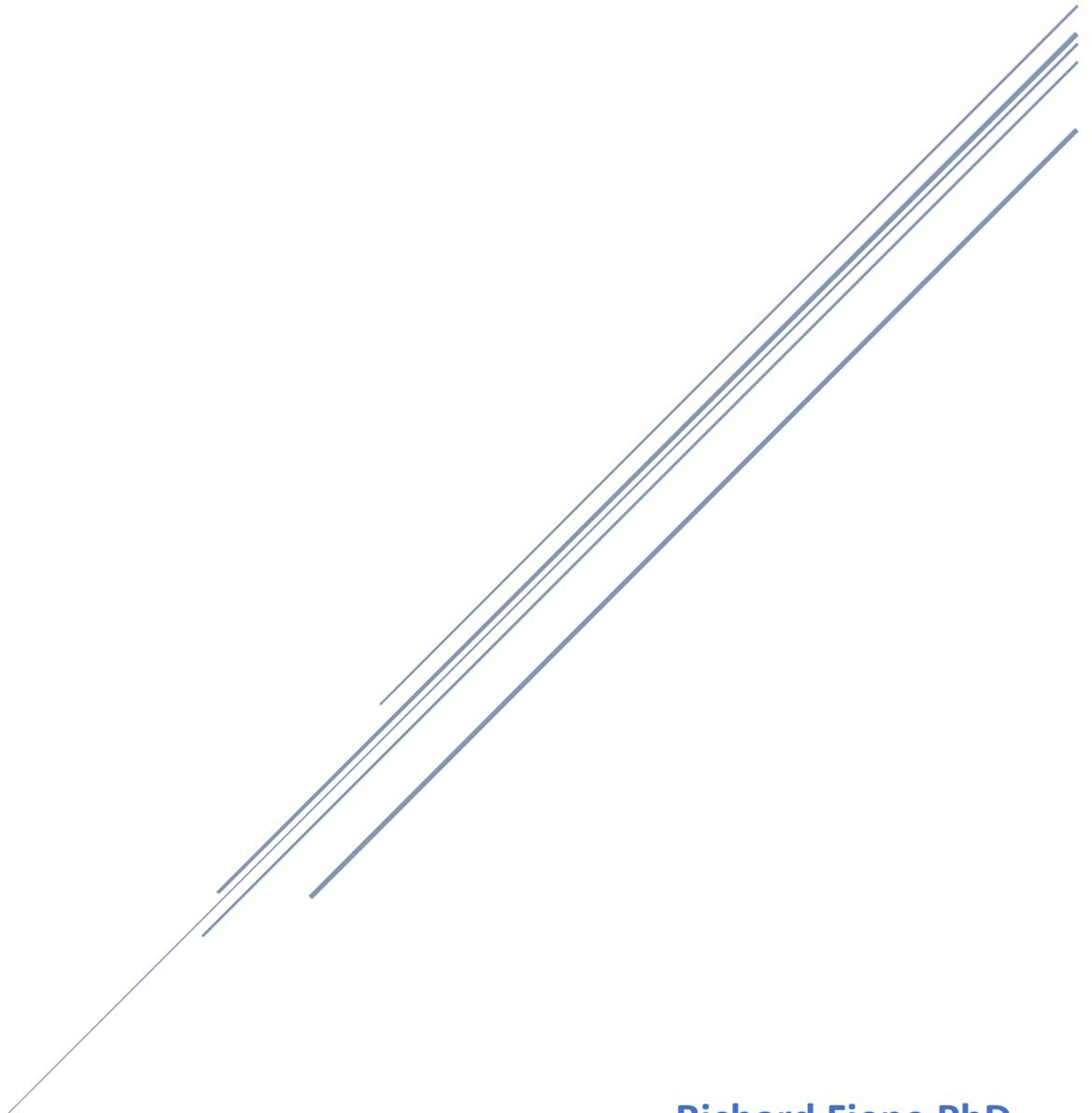
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The Emergence of a New Early Childhood Program Quality Tool/Scale

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June 2023

The early care and education (ECE) field has been dominated by two program quality tools/scales for the past two-three decades: ERSs (ITERS, ECERS, SACERS, FCCERS) and CLASS. These scales have served the field well over the years in providing excellent observation tools for Quality Rating and Improvement Systems (QRIS) initiatives at the state level and for national programs, such as Head Start. These scales are based upon expert opinion and have a good deal of empirical research to back them up.

While these tools were being used in the above domains QRIS and Head Start, a parallel development was occurring at the licensing level in which specific statistical methodologies were developed to identify key predictor rule indicators that predicted overall regulatory compliance with the full set of rules for specific ECE programs. This avenue of research was equally successful in providing the early care and education field with a tool/scale that listed these key predictor rule indicators (NARA, 2023a).

In the past 20 years, these statistical methodologies were expanded upon and applied to accreditation, QRIS, and professional development quality initiatives. In each of these

applications, key predictor performance indicators were identified that predicted overall performance of an ECE program.

These key predictor rule and performance indicators were combined into a new type of scale/tool that measured an ECE program at both a licensing and quality levels. Most recently this new scale/tool: The Early Childhood Education Quality Indicators Scale (ECEQIS) was pilot tested for reliability and validity in the Province of Saskatchewan's Ministry of Education by the National Association for Regulatory Administration (NARA) with resounding results (NARA, 2023b) (see Appendix 2).

The new ECEQIS is unique in that in its construction it is based upon both empirical evidence and expert opinion. All 10 indicators on the tool are generated from the key predictor rule and performance indicators statistical methodology.   The ECEQIS is appended to this article for the interested reader. As one will see, it consists of only 10 items but they are from the various quality ECE initiatives present in today's ECE systems: Licensing, QRIS, Accreditation, Professional Development/Training/Technical Assistance systems. The scale is easy to use and very time efficient, being able to be completed within two hours.

The ECEQIS has been tested for reliability by having independent observers collect data independent of each other. The ECEQIS has been tested for validity by having observers collect data independent of each other utilizing the ECEQIS and the ERSs: ECERS for preschool classrooms and the ITERS for infant and toddler classrooms. In all cases the validity results were significant at $p < .0001$. The ECEQIS is a rather robust tool and is a major addition to the

ECE measurement landscape (Please see the NARA Validation Study for the details of this study and the results (NARA, 2023b) which is contained in Appendix 2).

Here is a summary of the validation study which involved 30 programs, 90 classrooms and 180 observations of infant, toddler, and preschool classrooms utilizing the ECERS/ITERS and the SKECPQI instruments. Six trained observers collected the data over a two-month period. The analyses clearly demonstrated that the new ECEQIS instrument is a valid and reliable measure of program quality. PQI #2 clearly showed its predictive power in this study. The ECEQIS and PQI #2 correlated very highly with the ITERS and ECERS. The ECEQIS appears to correlate more highly with regulatory compliance violations than the ECERS or ITERS. The ceiling/plateauing effect is not as evident with the ECEQIS as it is with ECERS/ITERS. The Regulatory Compliance Scale (RCS) is a better sorter for regulatory compliance than the violation data. There is a good deal of internal consistency within the ECEQIS Tool just as it is with the ERSs. The Regulatory Compliance Theory of Diminishing Returns was validated in comparing RCS with ECERS/ITERS. Both the ECEQIS Scale and the Regulatory Compliance Scale are introduced as new improvements to measuring quality and regulatory compliance; however, in this article only the ECEQIS tool/scale is highlighted.

All scoring and scaling are built into the scale and utilizes observation, record review and lastly interviewing if necessary. The scale is organized into two parts: 1) Record Review and 2) Observations. There is ample room for making recordings within the tool and specific charts for keeping track of results.

The ECEQIS is organized into the following more general areas: 1) Quality Staff and Programming, 2) Quality Curriculum and Assessment, 3) Sharing and Communication with Parents, 4) Encouraging Communication and Reasoning Skills in Children, 5) Caregivers who are Warm and Attentive to Children. Each general area has anywhere from 1-3 program quality indicators (please check out the ECEQIS appended to this article below in Appendix 1).

The advantages with the new ECEQIS are that it measures indicators from all the major quality initiatives that exist within ECE as of this writing. From an ECE state administrator, licensing ECE administrator, or an ECE program director, this would provide a very effective and efficient means for assessing the overall quality of my program or programs in my respective jurisdiction. The other major advantage of the ECEQIS is that in can be used in infant, toddler, and preschool classrooms by selecting particular program quality indicators over other ones. This really makes it convenient to use. Obviously, the scoring will be a tad different, but everything else about the scale remains the same.

So, I encourage you to take a look and see what you think. Try it out in your classroom and see how well it works. And if you have the time, share your results with me, my contact information is at the end of this article, I would love to see what you are finding and add it to my national database.

References

NARA (2023a). *Key Indicator Website (https://www.naralicensing.org/key-indicators)*. National

Association for Regulatory Administration: Fredericksburg, VA.

NARA (2023b). *Saskatchewan Validation of the Early Care and Education Program Quality*

Indicators Scale. National Association for Regulatory Administration: Fredericksburg, VA.

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Appendix 1

Saskatchewan's Early Learning and Child Care Program Quality Key Indicator Instrument (SKECPQI)

INTRODUCTION and BACKGROUND to SKECPQI

Ten Quality Key Indicators (QKI) make up the Saskatchewan's Early Learning and Child Care Program Quality Key Indicator Instrument (SKECPQI). The details about each of the Quality Indicators and data collection instructions in order to obtain the necessary data to determine if a program meets the Key Quality Indicators are delineated below for each quality key indicator. Part 1 - Quality Key Indicators (QKI) 1 – 5 will be collected via record or document review, interviewing individuals, or observation. Part 2 - Quality Key Indicators (QKI) 6 – 10 will be collected via observations in the classrooms throughout the assessment.

These ten quality key indicators were taken from previous studies conducted over the past 40 years by Dr Richard Fiene utilizing the Regulatory Compliance Key Indicator metric (RCKIm) that he developed in the late 1970's. These QKI have held up over time and have now been coupled together into this tool and being pilot tested in the Province of Saskatchewan. The original tool was reviewed by a Provincial Ministry of Education Work Group who met during 2019-2020 and made some revisions to the original tool. All these changes are reflected in this version of the SKECPQI (2023).

PART 1 – Record/Document Review, Interview, Observation Quality Indicators

INDICATOR 1): Number of ECE III Educators (AA and BA Level ECE Educators)

Assessors will review staff records to determine the number of staff who have these credentials in early childhood education.   Record the number of ECEs with the appropriate qualifications and divide them by the total number of ECEs to come up with a percent for the center.

How to Measure:

Go to the **Staff Information Summary** form to obtain the data for this item. There are two columns that will do this. Under Certification: *Certification Date and Certification Level* (Highest ECE Level Certified). The certification date should be earlier than the date of the review and the actual level of the certification. In this case, we are interested in the number of (ECEIII's). Record the number of ECEIII working at least 65 hours/month. Then record the number of total teaching staff working at least 65 hours/month below as well. Teaching staff is defined as staff who have a responsibility for working with the children and the programming. Determine the percentage by dividing the total number of staff into the total number of ECEIII Certified teaching staff, ECEIII Certified teaching staff is the numerator, and the total number of teaching staff is the denominator (ECEIII/Total number of teaching staff x 100% = Percent).

Scoring for PQI 1:

The total number of ECEIII Certified teaching staff _____ (1.1)

The total number of teaching staff _____ (1.2)

Total ECEIII teaching staff divided by the total number of teaching staff _____ (%).

Then based on the percentage, you can find the score of 1-4 as per the chart below.

Circle the Appropriate Level	*1 = 0 to 25%*	*2= 26 to 50%*	*3 = 51 to 75%*	*4 = 76 to 100%*

INDICATOR 2): Stimulating and Dynamic Environment

The criteria for measuring this are drawn from **Play and Exploration Guide.** The program is child centered. Children are viewed as competent learners, and they have the freedom to access classroom materials independently without adult intervention. The children are provided with meaningful choices through activity/learning centers. There is evidence of the children's interests and their projects in the learning environment.

How to Measure:

Below is the checklist of items that should be present to assess if the environment is both stimulating and dynamic for the children. You will want to observe that the following items are occurring in the classroom first. If you do not actually observe it occurring, then check the program plan to find documentation that it normally occurs but you just did not observe today. The checklist items would be found in *Play and Exploration* foundational materials.

<u>Quality Early Learning Environments (Please record all that you observe Y or N):</u>

1. Co-teaching is evident. Y/N _____ (2.1)
2. Children are viewed as competent learners & can access materials independently. Y/N ____ (2.2)
3. Authentic and meaningful materials are used with children. Y/N _____ (2.3)
4. Children are provided with meaningful choices. Y/N _____ (2.4)
5. Children's work, art and photos are displayed respectfully. Y/N _____ (2.5)
6. Family photos are displayed in the early learning program. Y/N _____ (2.6)
7. Documentation of learning is displayed and discusses holistic development. Y/N _____ (2.7)
8. Environment reflects the culture and beliefs of the children, families and staff. Y/N _____ (2.8)
9. Variety of books & other print materials are available throughout the classroom Y/N _____ (2.9)
10. A variety of writing materials are accessible to children most of the time. Y/N _____ (2.10)
11. There is evidence of the children's interests & projects in the classroom. Y/N ____ (2.11)

Scoring for PQI 2:

Total up the number of items where you recorded a "Y" above that you observed (curriculum or in classrooms), divide by 11 x 100% to come up with a percent and record here _____ %. Then based on the percentage, you can find the score of 1-4 as per the chart below.

Circle the Appropriate Level	*1 = 0 to 25%*	*2= 26 to 50%*	*3 = 51 to 75%*	*4 = 76 to 100%*

INDICATOR 3): Developmentally Appropriate Curriculum Based on Assessments of Each Child

The key for this quality key indicator is that the program is following an individualized prescribed planning document when it comes to curriculum. It does not mean it is a canned program, in fact, it shouldn't if it is based upon the individual needs of each child's developmental assessment. The assessor will ask to see what is used to guide the curriculum. There should be a written document that clearly delineates the parameters of the philosophy, activities, guidance, and resources needed for the particular curricular approach. There should also be a developmental assessment which is clearly tied to the curriculum. The developmental assessment can be home-grown or a more standardized off-the-shelf type of assessment, the key being its ability to inform the various aspects of the curriculum. The purpose of the assessments is not to compare children but rather to compare the developmental progress of individual children as they experience the activities of the curriculum.

The following key elements should be present when assessing this quality indicator.

- 1) The program practices emergent curriculum, allowing the interests of the children to determine the learning content. The curriculum is informed by individual developmental assessments of each child in the respective classrooms.

- 2) The children and educators are co-learners in the exploration of projects.

- 3) Learning activities of the children are documented, displayed in the learning environment and used to plan further learning activities. This can be assessed developmentally.

How to Measure:

Take a sample of 10 individual children's records and consider the above three elements for EACH record. You should be asking yourself if there is a clear link between an assessment and the developmentally appropriate curriculum so that an individualized learning approach is being undertaken and each child's developmental needs are taken into consideration. These records could be formal, such as portfolios kept for each child or a more informal, anecdotal type of record keeping. The key is that there is a record that can be looked at. It is not adequate if the teacher says they do it from memory – it needs to be written down and documented.

Cross check the child's record to the actual curriculum. Record all the instances (Y's) in which this occurs. All three blocks need to be checked for each record (1-10).

Emergent Curriculum is Practiced (3.1)

1 Y/N	2 Y/N	3 Y/N	4 Y/N	5 Y/N	6 Y/N	7 Y/N	8 Y/N	9 Y/N	10 Y/N

Key Element 1 +

Children and Educators are Co-learners (3.2)

1 Y/N	2 Y/N	3 Y/N	4 Y/N	5 Y/N	6 Y/N	7 Y/N	8 Y/N	9 Y/N	10 Y/N

Key Element 2 +

Learning Activities are Documented and Displayed and Used to Plan Future Learning (3.3)

1 Y/N	2 Y/N	3 Y/N	4 Y/N	5 Y/N	6 Y/N	7 Y/N	8 Y/N	9 Y/N	10 Y/N

Key Element 3 +

All three key elements must have a Y to get an overall score of Y. If all three key elements have a Y for that individual record, then record Y in the corresponding block in the overall score.

1 Ys =	2 Ys =	3 Ys =	4 Ys =	5 Ys =	6 Ys =	7 Ys =	8 Ys =	9 Ys =	10 Ys =

= Total of All Three Key Elements (3.4)

Scoring for PQI 3:

The number of positive records (all Ys for all three elements) where there is a crosswalk from developmental assessment to curriculum _____

Percent of positive records (all Ys) (divide the number of positive records by 10 x 100%) _____ %. Then based on the percentage, you can find the score of 1-4 as per the chart below.

Circle the Appropriate Level	1 = 0 to 25%	2= 26 to 50%	3 = 51 to 75%	4 = 76 to 100%

INDICATOR 4): Opportunities for Staff and Families to Get to Know Each Other

There should be activities both within the center as well as off site where staff and parents have opportunities to meet and greet each other.   Communication with family members is documented and enables early childhood providers to assess the need for follow-up.   Early childhood providers hold regular office hours when they are available to talk with family members either in person or by phone. Family members are encouraged to lead the conversation and to raise any questions or concerns.

How to Measure:

Look for the following 3 examples in policies developed by the program and determine if they have been carried out with families. It will be necessary to interview staff to complete this indicator if you do not find the three examples in policies:

1. The program provides communication, education, and informational materials & opportunities for families that are delivered in a way that meets their diverse needs. Y/N_____ (4.1)
2. The program communicates with families using different modes of communication, and at least one mode promotes two-way communication. Y/N _____ (4.2)
3. The program demonstrates respect and engages in ongoing two-way communication. The program respects each family's strengths, choices, & goals for their children. Y/N _____ (4.3)

Scoring for PQI 4:

Record the number of Yes's (Y's): _____ (Range: 0 – 3) (Divide by 3 x 100% = _____%). Then based on the percentage, you can find the score of 1-4 as per the chart below.

Circle the Appropriate Level	1 = 0 to 25%	2= 26 to 50%	3 = 51 to 75%	4 = 76 to 100%

INDICATOR 5): Families Receive Information on Their Child's Progress Regularly Using a Formal Mechanism

Based upon Indicator #3 above, the information gleaned from the developmental assessments should be the focus of the report or parent conference. Parental feedback about the assessment and how it compares to their experiences at home would be an excellent comparison point. All these interactions should be done in a culturally and linguistically appropriate way representing the parents being served.

How to Measure:

Look for the following four examples in policies developed by the program and determine if they have been carried out with families. Record the number of reports completed or parent conferences over the past year. It will be necessary to interview staff to complete this indicator if you cannot determine from records that the conferences or reports were completed.

NOTE: The examples are mutually exclusive and are not additive; the first example is the highest scored, the third example the least scored. After 1-3 are determined, then do the last example.

- 1) The program does have regularly scheduled (at least 2xs/year) parent conferences in which the children's developmental progress is discussed AND provides the family with a report of their child's developmental progress. Y/N _____ (5.1) (Score 3 points). If "Yes" then go to Number 4. If "No", then go to numbers 2 and 3.

- 2) The program has regularly scheduled (at least 2xs/year) parent conferences in which the children's developmental progress is discussed, but it does not provide a report to the parents on their child's developmental progress. Y/N _____ (5.2) (Score 2 points).

- 3) If the program does not have regularly scheduled (at least 2xs/year) parent conferences, does it provide the family with a report of their child's developmental progress. Y/N _____ (5.3) (Score 1 point). Go to Number 4.

- 4) All these interactions are done in a culturally and linguistically appropriate way representing the parents being served. Y/N _____ (5.4) (Score 1 point)

Scoring for PQI5:

Add up the total points based on the Ys; this will range from "0" to "4". The only way a program can receive a "4", is if a program has regularly scheduled parent conferences at least 2xs/year and provides the family with a report of their child's progress; and it is done in a culturally and linguistically appropriate way.

Record the number of points: _____ (Range: 0 - 4)

Total Score for Part 1 = _____

PART 2 - OBSERVATIONS:

For quality key indicators 6, 7 and 8, it is recommended that the licensing consultant refer to the appropriate Environmental Rating Scale (ERS) tool as a reference tool because these indicators are taken directly from these tools. It is also recommended that these be assessed/observed throughout the assessment and not just during key activity times. Please follow the specific instructions and examples as delineated below and in the appropriate ERS tool: ECERS (Items 12 and 13) or ITERS (Item 12). These specific instructions and examples are provided within this tool for ease of administration and data collection. If there are several preschool aged classrooms randomly select one to do your observations.

INDICATOR 6): Educators Encourage Children to Communicate (Preschool Class)

Assessors will need to observe this item when they do their classroom observations. Initially you can ask educators or the director how children are encouraged to communicate but in order to gather reliable and valid information regarding this question/standard, it needs to be observed in the various interactions between staff and children. Things to look for would be more back and forth conversations rather than one-way conversations where educators are telling children what to do. Look for opportunities where children can describe what they are doing, how they feel about what they are doing, and why they are doing particular activities. Educators expand upon children's conversations.

These opportunities can occur anywhere in the classroom or outside, such as in dramatic play, tabletop activities or on the playground. Materials should be present that encourage communication such as toy telephones, puppets, flannel boards, dolls and dramatic play props, small barns, fire stations, or dollhouses. These create a lot of conversation among children as they assume many different roles. Children also talk when there is an interested person who listens to them. The staff in a high-quality early childhood classroom will use both activities and materials to encourage growth in communication skills.

How to Measure:

Observe the classroom for a minimum of 15 minutes. Once completed, consider where the classroom falls based on the following scale;
Score the classroom a 1 if the following occur:
- No activities used by staff with children to encourage them to communicate, for example: nontalking about drawings, dictating stories, sharing ideas at circle time, finger plays, singing songs. Y/N _____ (6.1)
- Very few materials accessible that encourage children to communicate. Y/N _____ (6.2)

Score the classroom a 2 if the following occur (If the classroom does not have all 3 indicators but has 2 of the indicators then score this item 1+):
- Some activities are used by staff w/children to encourage them to communicate. Y/N _____ (6.3)
- Some materials are accessible to encourage children to communicate. Y/N _____ (6.4)
- Communication activities are generally appropriate for the children in the group. Y/N _____ (6.5)

Score the classroom a 3 if the following occur (If the classroom does not have both indicators but has one of the indicators then score this item 2+):
- Communication activities take place during both free play and group times, for example: child dictates story about painting; small group discusses trip to store. Y/N _____ (6.6)
- Materials that encourage children to communicate are accessible in a variety of interest centers, for example: small figures and animals in block area; puppets and flannel board pieces in book area; toys for dramatic play outdoors or indoors. Y/N _____ (6.7)

Score the classroom a 4 if the following occur (If the classroom does not have both indicators but has one of the indicators then score this item 3+):
- Staff balance listening and talking appropriately for age and abilities of children during communication activities, for example: leave time for children to respond; verbalize for child with limited communication skills. Y/N _____ (6.9)
- Staff link children's spoken communication with written language, for example: write down what children dictate & read it back to them; help them write notes to parents. Y/N _____ (6.10)

Scoring for PQI 6:
Total up the number of "Y's" and record the appropriate level. In order for a classroom to receive a particular score, all "Y's" must be checked for the appropriate level (1 - 4) from above or partial credit given in order to obtain a "+". If there is a "+" please also mark it in the box.

Circle the Appropriate Level	*1*	*2*	*3*	*4*

INDICATOR 7): Infant Toddler Observation (if applicable) **(Infant Classroom)**

NOTE: If there is an infant, toddler or combined infant/toddler classroom that needs to be assessed, then use the following ITERS item directly from the ITERS Tool (Item 12), if there is not an infant toddler classroom, then skip to Indicator 8.

Conversations and questions should be used with all children, even young infants. Conversations using verbal and nonverbal turn-taking should be considered when scoring. Most conversations and questions initiated by infants will be nonverbal, such as widening of baby's eyes or waving arms and legs. Observe staff response to such nonverbal communication. For infants and toddlers, the responsibility for starting most conversations and asking questions belongs to the staff. As children become more able to initiate communication, staff should modify their approach in order to allow children to take on a greater role in initiating conversations and asking questions. Staff should provide answers to questions used by children if children cannot answer, and as children become more able to respond, questions should start to include those that the child can answer. If there was not an infant classroom, skip this Indicator and please note that here and on the summary score sheet by marking N/A: _____

How to Measure:
Observe the classroom for a minimum of 15 minutes. Once completed, consider where the classroom falls based on the following scale;

Score the classroom a 1 if the following occurs:

- Staff never initiate turn-taking conversations with children, for example: rarely encourage baby to babble back; simple back and forth exchanges with verbal children never observed. Y/N _____ (7.1)
- Staff questions are often not appropriate for children, or no questions are asked, for example: too difficult to answer; carry a negative message. Y/N _____ (7.2)
- Staff respond negatively when children can't answer questions, for example: "You should know this"; "You did not listen". Y/N _____ (7.3)

Score the classroom a 2 if the following occurs (If the classroom does not have all 3 indicators but has 2 of the indicators then score this item 1+):

- Staff sometimes initiate conversations with children, for example: babble back and forth with baby; copy baby's sounds; respond to baby's crying with verbal response; have short back and forth toddler interactions. Y/N _____ (7.4)
- Staff sometimes ask children appropriate questions and wait for the child to respond, for example: ask baby if she likes toy and pay attention as baby smiles; ask toddler what he is eating and wait for him to think of word. Y/N _____ (7.5)
- Staff respond neutrally or positively to children who can't answer questions. Questions asked are sometimes meaningful to children, for example: child responds with interest; does not ignore staff questions. Y/N _____ (7.6)

Score the classroom a 3 if the following occurs (If the classroom does not have all 4 indicators but has 2 or more of the indicators then score this item 2+):

- Staff initiate engaging conversations with children throughout the observation, for example: show enthusiasm; use tone that attracts child's attention. Y/N _____ (7.7)
- Staff often personalize questions and/or conversations for individual children, for example: talk about children's families, preferences, interests; what they are playing with; what they did over weekend; child's mood; use child's name. Y/N _____ (7.8)

- Staff often pay attention to children's questions, verbal or nonverbal, and answer in a satisfying manner for the child. Y/N _____ (7.9)
- Staff ask questions in which children show interest in answering, for example: make the questions funny or mysterious; use attractive tone; meaningful and not too difficult to answer. Y/N _____ (7.10)

Score the classroom a 4 if the following occurs (If the classroom does not have both indicators but has one of the indicators then score this item 3+):
- Staff frequently have turn taking conversations with children throughout the observations. Many appropriate questions are used throughout the observation, during both play and routines. Y/N _____ (7.11)
- Staff ask children appropriate questions, wait a reasonable time for child response, and then answer if needed, for example: "Are you hungry? . . . Yes, you are!"; "Where's the ball? . . . These it is! You found the ball". Y/N _____ (7.12)

Scoring for PQI 7:
Total up the number of "Y's" and record the appropriate level. For a classroom to receive a particular score, all "Y's" must be checked for the appropriate level (1 - 4) from above or partial credit given in order to obtain a "+".

Circle the Appropriate Level	*1*	*2*	*3*	*4*

INDICATOR 8): Educators Use Language to Develop Reasoning Skills (Preschool)

Assessors will need to observe very carefully as this standard can be difficult to determine because it is tying language and cognition together. Again, this opportunity can occur in any setting in or out of the classroom because it is the basis for problem solving through the use of language. Also look for educators redirecting children's conversations when appropriate. Staff should use language to talk about logical relationships using materials that stimulate reasoning. Through the use of materials, staff can demonstrate concepts such as same/different, classifying, sequencing, one-to-one correspondence, spatial relationships, and cause and effect.

How to Measure:
Observe the classroom for a minimum of 15 minutes. Once completed, consider where the classroom falls based on the following scale;
Score the classroom a 1 if the following occur:
- Staff do not talk with children about logical relationships, for example: ignore children's questions and curiosity about why things happen, do not call attention to sequence of daily events, differences and similarity in number, size, shape, cause and effect. Y/N _____ (8.1)
- Concepts are introduced inappropriately, for example: concepts too difficult for age and abilities of children, inappropriate teaching methods used such as worksheets without any concrete experiences; teacher gives answers w/o helping children to figure things out. Y/N _____ (8.2)

Score the classroom a 2 if the following occur (If the classroom does not have both indicators but has one of the indicators then score this item 1+):
- Staff sometimes talk about logical relationships or concepts, e.g.: explain that outside time comes after snacks, point out differences in sizes of blocks children use. Y/N _____ (8.3)

- Some concepts are introduced appropriately for ages and abilities of children in group, using words and experiences, for example: guide children with questions and words to sort big and little blocks or to figure out why ice melts. Y/N _____ (8.4)

Score the classroom a 3 if the following occur (If the classroom does not have both indicators but has one of the indicators then score this item 2+):
- Staff talk about logical relationships while children play with materials that stimulate reasoning, for example: sequence cards, same/different games, size and shape toys, sorting games, numbers and math games. Y/N _____ (8.5)
- Children are encouraged to talk through or explain their reasoning when solving problems, for example: why they sorted objects into different groups, in what way two pictures are the same or different. Y/N _____ (8.6)

Score the classroom a 4 if the following occur (If the classroom does not have both indicators but has one of the indicators then score this item 3+):
- Staff encourage children to reason throughout the day, using actual events and experiences as a basis for concept development, e.g.: children learn sequence by talking about their experiences in the daily routine or recalling the sequence of a cooking project. Y/N _____ (8.7)
- Concepts are introduced based upon children's interests or needs to solve problems, for example: talk children through balancing a tall block building, help children figure out how many spoons are needed to set a table. Y/N _____ (8.8)

Scoring for PQI 8:

Total up the number of "Y's" and record the appropriate level. In order for a classroom to receive a particular score, all "Y's" must be checked for the appropriate level (1 - 4) from above or partial credit given in order to obtain a "+".

Circle the Appropriate Level	*1*	*2*	*3*	*4*

For quality key indicators 9 and 10 it is recommended that these be assessed/observed throughout the observation period and not just during key activity times. These two quality key indicators should be observed in two-minute blocks over ten sequences for a total of 20 minutes. These two items should also be used with each age group you are assessing.

INDICATOR 9): Educators Listen Attentively When Children Speak

This quality indicator focuses on the early childhood educator(s) looking directly at the children with nods, rephrases their comments, engages in conversations. Children should have the undivided attention of the specific educator they are addressing. Educators should not be looking away or pre-occupied with others. They should be at the child's level making eye contact. The intent is to observe all children and educators in the room.

How to Measure:

Do this in timed 2-minute observations recording each time you observe this occurring. Record at least 10 different observation periods. These do not need to be consecutive in order to fully observe classrooms and educators. Please use the following scale to assess your recordings: Likert Scale (1-4) where 1 = Never/Not at All; 2 = Somewhat/Few Instances; 3 = Quite a Bit/Many Instances; 4 = Very Much/Consistently):

Make the actual recordings using the Likert Scale (1-4) above for each individual observation and record in each cell below.

10 Observations:

10.1	2	3	4	5	6	7	8	9	10.10

Scoring for PQI 9:

Once all the observations are made, add up the results from the Likert Scale (1-4) and record the total number here: _____ (Range: 10 - 40)(Divide this result by 10) = _____ (1-4)(Round upward or downward to the whole number (3.7 = 4; 2.2 = 2)).

Circle the Appropriate Level	*1*	*2*	*3*	*4*

INDICATOR 10): Educators Speak Warmly to Children

This quality indicator focuses on the early childhood educator(s) always engaging in a caring voice and body language with every child. Educators do not use harsh language or commands in speaking to children, but rather again are on the child's level making eye contact. Think of the way Fred Rogers would engage his audience where you always felt you were the most important person in the world when he talked to the TV.

How to Measure:
Do this in timed 2-minute observations recording each time you observe this occurring. Record at least 10 different observation periods. Please use the following scale to make your recordings: (This item is on a Likert Scale (1-4) where 1 = Never/Not at All; 2 = Somewhat/Few Instances; 3 = Quite a Bit/Many Instances; 4 = Very Much/Consistently):
Make the actual recordings using the Likert Scale (1-4) above for each individual observation and record in each cell below.
10 Observations:

10.1	2	3	4	5	6	7	8	9	10.10

Scoring for PQI 10:

Once all the observations are made, add up the results from the Likert Scale (1-4) and record the total number here: _____ (Range: 10 - 40) (Divide this result by 10) = _____ (1-4). (Round upward or downward to the whole number (3.7 = 4; 2.2 = 2)).

Circle the Appropriate Level	*1*	*2*	*3*	*4*

SKECPQI Scoring Protocol

LEVEL	Standardized Scores	Actual Scores
High Quality	**Mixed Age: 36+** **Preschool: 32+** **Infant-Toddler: 28+**	Mixed Age: _____ Preschool: _____ Infant-Toddler: _____
High - Mid Quality	**Mixed Age: 30 – 35** **Preschool: 26 - 31** **Infant-Toddler: 22 - 27**	Mixed Age: _____ Preschool:_____ Infant-Toddler:_____
Mid – Low Quality	**Mixed Age: 20 – 29** **Preschool: 16 - 25** **Infant-Toddler: 12 - 21**	Mixed Age: _____ Preschool: _____ Infant-Toddler: _____
Low Quality	**Mixed Ages: 19 or less** **Preschool: 15 or less** **Infant-Toddler: 11 or less**	Mixed Age: _____ Preschool:_____ Infant-Toddler: _____

Note:

Additional Information regarding the psychometrics of the tool contact: Richard Fiene, Ph.D., Research Psychologist, Research Institute for Key Indicators & Penn State University. RFiene@RIKInstitute.com

10/2020; 4/2021; 1/2023; 2/2023; 3/2023 versions

After completing your observations, reviewing all documentation, and interviewing staff, when necessary, please transfer all your results to the Summary Table below. If there was not an infant classroom, please note here, no infant classroom: _____. If there was not a toddler classroom, please note here, no toddler classroom: _____. If there was not a preschool classroom, please note here, no preschool classroom: _____.

Key Q Indicator	Quality Indicator Content	Scale Source	Potential Score	Actual Score
QKI 1	Professional Development	NAEYC	1-4	1, 2, 3, 4
QKI 2	The Environment	Saskatchewan	1-4	1, 2, 3, 4
QKI 3	Curriculum and Assessment	NAEYC	1-4	1, 2, 3, 4
QKI 4	Family Engagement I	QRIS	1-4	1, 2, 3, 4
QKI 5	Family Engagement II	QRIS	1-4	1, 2, 3, 4
QKI 6	Communication (Preschool)	ECERS	1-4 or NA	1, 2, 3, 4, +, NA
QKI 7	Infant Classroom	ITERS	1-4 or NA	1, 2, 3, 4, +, NA
QKI 8	Reasoning Skills (Preschool)	ECERS	1-4 or NA	1, 2, 3, 4, +, NA
QKI 9	Listen Attentively	CIS	1-4	1, 2, 3, 4
QKI 10	Speak Warmly	CIS	1-4	1, 2, 3, 4

Notes:
Use ITERS if: (Infants) (B-1yr)
Use ITERS if: (Toddlers) (1yr-2yr)
Use ECERS if: (Preschoolers) (3yr+)

SKECPQI/Infant (administer QKI items 1-5, 7, 9-10) (Scores 8-32)

SKECPQI/Toddler or Preschool (administer QKI items 1-5, 7, 9-10) (Scores 8-32) or (administer QKI items 1-6, 8-10) (Scores 9-36). Mixed age group (administer QKI items 1-10) (Scores 10-40)

SKECPQI/Preschool (administer QKI items 1-6, 8-10) (Scores 9-36)

All the above 10 quality indicators (SKECPQI) have been taken from other sources having been identified in Quality Indicator Studies conducted by Dr Richard Fiene from 1980 – 2020. Please refer to the source documents for details on their creation: *ECERS, ITERS, QRIS/INQUIRE, CIS/Arnett, NAEYC, SASKATCHEWAN PLAY & EXPLORATION.* For additional information, reports, and publications related to these studies, please go to https://www.naralicensing.org/key-indicators Or https://rikinstitute.com/publications/

SKECPQI: SASKATCHEWAN EARLY CHILDHOOD PROGRAM QUALITY INDICATORS

CHART/GRAPH

	Scores
QKI1	
QKI2	
QKI3	
QKI4	
QKI5	
QKI6	
QKI7	
QKI8	
QKI9	
QKI10	
TOTAL	

QKI Scores
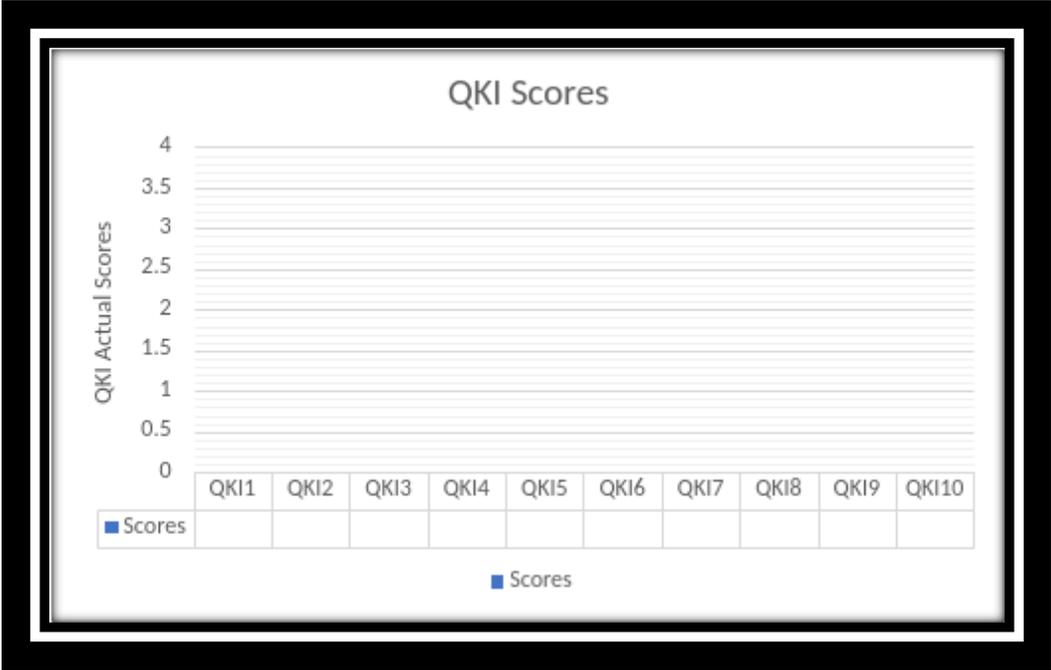
QKI and key elements/sub items and comments Scoresheet:

QKI1 _____ 1.1 _____ 1.2 _____ Comments: _____

QKI2 _____ %

2.1 _____ Comments: _____

2.2 _____ Comments: _____

2.3 _____ Comments: _____

2.4 _____ Comments: _____

2.5 _____ Comments: _____

2.6 _____ Comments: _____

2.7 _____ Comments: _____

2.8 _____ Comments: _____

2.9 _____ Comments: _____

2.10 _____ Comments: _____

2.11 _____ Comments: _____

QKI3 _____ %

3.1 _____ Comments: _____

3.2 _____ Comments: _____

3.3 _____ Comments: _____

3.4 _____ Comments: _____

QKI4 _____ %

4.1 _____ Comments: _____

4.2 _____ Comments: _____

4.3 _____ Comments: _____

QKI5 _____ Points

5.1 _____ Comments: _____

5.2 _____ Comments: _____

5.3 _____ Comments: _____

5.4 _____ Comments: _____

QKI6 _____ Level

6.1 _____ Comments: _____

6.2 _____ Comments: _____

6.3 _____ Comments: _____

6.4 _____ Comments: _____

6.5 _____ Comments: _____

6.6 _____ Comments: _____

6.7 _____ Comments: _____

6.8 _____ Comments: _____

6.9 _____ Comments: _____

QKI7 _____ Level

7.1 _____ Comments: _____

7.2 _____ Comments: _____

7.3 _____ Comments: _____

7.4 _____ Comments: _____

7.5 _____ Comments: _____

7.6 _____ Comments: _____

7.7 _____ Comments: _____

7.8 _____ Comments: _____

7.9 _____ Comments: _____

7.10 _____ Comments: _____

7.11 _____ Comments: _____

7.12 _____ Comments: _____

QKI 8 _____ Level

8.1 _____ Comments: _____

8.2 _____ Comments: _____

8.3 _____ Comments: _____

8.4 _____ Comments: _____

8.5 _____ Comments: _____

8.6 _____ Comments: _____

8.7 _____ Comments: _____

8.8 _____ Comments: _____

QKI9 _____ Level

9.1 _____ Comments: _____

9.2 _____ Comments: _____

9.3 _____ Comments: _____

9.4 _____ Comments: _____

9.5 _____ Comments: _____

9.6 _____ Comments: _____

9.7 _____ Comments: _____

9.8 _____ Comments: _____

9.9 _____ Comments: _____

9.10 _____ Comments: _____

QKI10 _____ Level

10.1 _____ Comments: _____

10.2 _____ Comments: _____

10.3 _____ Comments: _____

10.4 _____ Comments: _____

10.5 _____ Comments: _____

10.6 _____ Comments: _____

10.7 _____ Comments: _____

10.8 _____ Comments: _____

10.9 _____ Comments: _____

10.10 _____ Comments: _____

Quality Key Indicators (QKI)	Elements/Items	Data Collection
1	1.	Record Review
2	11	Policy, Records, Interviews
3	4	Policy, Records, Interviews
4	3 . . .	Policy, Records, Interviews
5	4	Policy, Records, Interviews
6	9	Observation
7	12	Observation
8	8	Observation
9	10	Observation
10	10	Observation
TOTAL	Potential Score = 78	Actual Score Obtained = _____
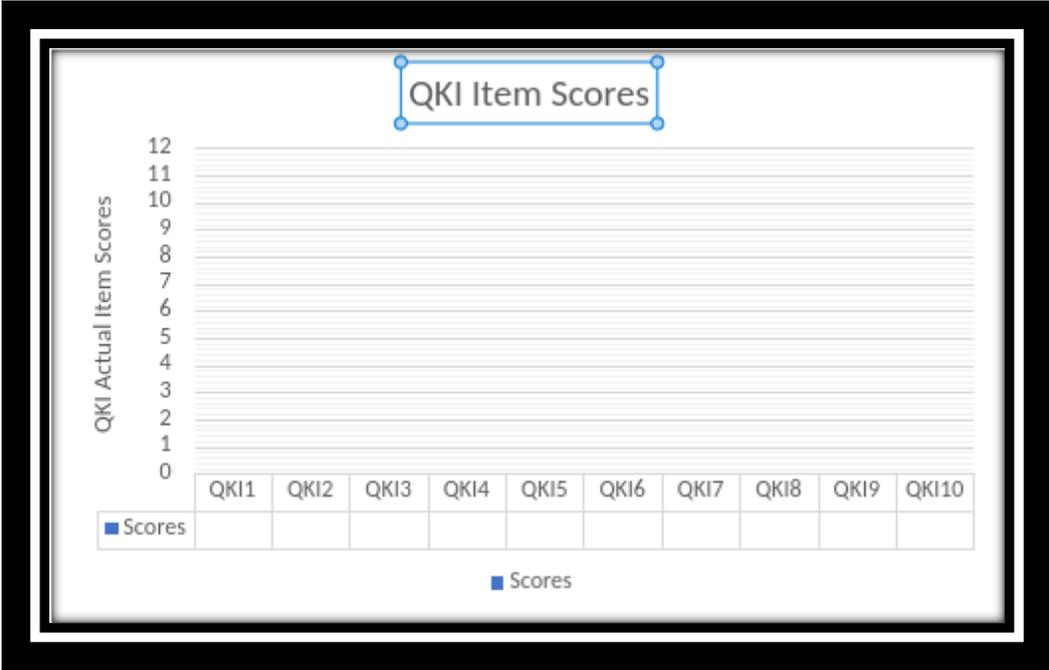
The Saskatchewan Early Care and Education Quality Indicators (SKECPQI) Tool and Validation: The Last Piece of the Puzzle in Creating a Differential Monitoring Approach

Study Methodology and Statistical Analyses

Research Institute for Key Indicators/Prevention Research Center/Penn State University/National Association for Regulatory Administration

Abstract

This validation study involved 30 programs, 90 classrooms and 180 observations of infant, toddler, and preschool classrooms utilizing the ECERS/ITERS and the SKECPQI instruments. Six trained observers collected the data over a two-month period. The analyses clearly demonstrated that the new SKECPQI instrument is a valid and reliable measure of program quality. PQI #2 clearly showed it predictive power in this study. The SKECPQI and PQI #2 correlated very highly with the ITERS and ECERS. The SKECPQI appears to correlate more highly with regulatory compliance violations than the ECERS or ITERS. The ceiling/plateauing effect is not as evident with the SKECPQI as it is with ECERS/ITERS. The Regulatory Compliance Scale (RCS) is a better sorter for regulatory compliance than the violation data. There is a good deal of internal consistency within the SKECPQI Tool just as it is with the ERSs. The Regulatory Compliance Theory of Diminishing Returns was validated in comparing RCS with ECERS/ITERS. Both the SKECPQI Scale and the Regulatory Compliance Scale are introduced as new improvements to measuring quality and regulatory compliance.

INTRODUCTION

This article will delineate the development, piloting and validating of the Saskatchewan Early Care and Education Quality Key Indicators (SKECPQI) Tool. The purpose of the tool is to assess the overall program quality in centered based childcare programs in the Province of Saskatchewan, Canada. The evolution of the tool resulted from a multi-year effort by the Ministry of Education in the Province of Saskatchewan to build an effective and efficient differential monitoring system.

This effort in building a new differential monitoring system started in 2019 and was completed in 2023. The first component of this restructuring was the Saskatchewan Licensing Key Indicator System (2019). This was followed by the Saskatchewan Risk Assessment Rules (2019). Once these were in place and operational, a validation study was conducted to measure that the two methodologies were operating as they should (2020). A work group was initiated in 2019 and completed its work in 2020 on an Early Care and Education Quality Key Indicator Tool (SKECPQI). The tool was put on hold for 2021 because of

the pandemic and a new Canadian Federal initiative to expand childcare services across the province. The tool initiative began again in 2022. The pilot testing and validation occurred in 2023.

The work and these studies in the Province of Saskatchewan by the Ministry of Education is the first demonstration of a full-blown differential monitoring system involving licensing key indicator rules, risk assessment rules, and quality indicators. Besides the development of each tool, each of these tools have been validated as well. All this work was done as a collaborative effort between the Ministry of Education staff and the National Association for Regulatory Administration (NARA) consultant pool. Presently, Saskatchewan's overall system is the best example of a fully developed differential monitoring system for the early care and education field.

This was a monumental effort involving many individuals at the local, provincial, and national levels and many hours of data collection and analysis. All the reports are available on the NARA Website (https://www.naralicensing.org/key-indicators) and the full data set will be available via Mendeley Data Sources (https://data.mendeley.com/datasets/kzk 6xssx4d/1).

BACKGROUND HISTORY

This study and tool grew out of an interest by Saskatchewan Ministry of Education policy makers to establish a balance between regulatory compliance and program quality in the most effective and efficient manner. The Province of Saskatchewan did not have a QRIS (Quality Rating and Improvement System) in place nor plans on developing one. Generally, when a jurisdiction wants to develop a balance between regulatory compliance and program quality with rules/regulations/standards, QRIS's are generally developed and implemented.

In reviewing the research literature on regulatory science, differential monitoring has been a developing approach used by many other jurisdictions in the human service licensing field, especially in the United States and in several other Canadian Provinces. Based upon this review of the research literature and the work of the National Association for Regulatory Administration (NARA) which has been a long-term promoter of this approach and the resulting methodologies of licensing key indicators, risk assessment rules, and most recently quality indicators, a contract was entered into between the Ministry of Education and NARA.

The tool is the direct result of research into identifying licensing and quality key indicators over a 50-year (1970-2022) research effort in which specific methodologies were developed and the differential monitoring approach was tested and implemented in the 1970's. Since that time, a national database which expanded to an international database of common key indicators from jurisdictions' respective key indicator tools. These key indicators resulted in a very similar tool that Saskatchewan is using. In fact, in 2019 when the Saskatchewan work group was established, they started with that specific tool that had been developed (Fiene, 2019). During the 2019-2020 period, the work group made the tool into a more user-friendly tool for Saskatchewan childcare programs.

The big deal with utilizing the key indicator methodology is its ability to statistically predict as if one administered the full tool in question. Therefore, when one administers the first quality indicator in the Saskatchewan Early Care and Education Quality Indicator tool, it is as if they have administered a licensing based regulatory compliance instrument since the quality of staff is a statistically predictive rule (Fiene, 2002a). The same is true in administering the curriculum quality indicator because it is a

statistically predictive standard when looking at overall program quality (Fiene, 2002b). When it comes to QRIS, having communication between staff and parents and parental involvement is a statistically predictive standard for an overall set of QRIS standards (Fiene, 2014). And finally, when administering the ECERS and ITERS or the CIS quality item indicators these are all statistically predictive items for their respective scales as if you had administered the full scales (Fiene, 2002b).

So, as a state/provincial administrator, I would be interested in focusing my efforts on these indicators which reflect compliance with high quality rules/regulations/standards for early care and education. This would be my starting point. I would make sure that my standards reflected quality teachers with the necessary supports such as coaching/mentoring, an early care and education philosophy based upon an emergent curriculum where children are viewed as competent learners, developmentally appropriate curriculum and child assessments, parental and staff communication and participation, and teacher language based/communicative focus when interacting with children in a give and take manner. All this done within a warm and loving style.

An even more efficient and effective way of using the new program quality tool is to pair it with the National Center for Health and Safety in Child Care's *Parental Guide to Choosing Safe and Healthy Child Care (DHHS: Assistant Secretary's Office for Planning and Evaluation, 2019)*. This is a more aggressive and controversial approach, but it is the most efficient way of conducting monitoring visits in the most abbreviated way. However, as efficiency increases, effectiveness may decrease; so, it is a delicate balancing act. This suggested approach builds off a similar suggestion in which only using *Caring for Our Children: Basics (ACF, 2015)* a DHHS Administration for Children and Families publication would be used as the base for regulatory compliance in the United States.

Differential monitoring grew out of a need for jurisdictions to be more effective and efficient in their oversight and inspection efforts of early care and education programs. This started to occur in the late 1960's and 1970's as many more programs were being established. It was becoming clear that the old one size fits all approach to program monitoring was being overwhelmed by the increasing numbers of programs. Also, from an efficiency standpoint it did not make sense to spend the same amount of time with programs that were performing well as those that really needed additional attention. The birth of differential monitoring occurred which at that time it was called inferential inspections (Fiene & Kroh, 2000). Different terminology, same concept.

Since then, differential monitoring has two basic methodologies that have been used successfully over the years: risk assessment and key indicators. The two methodologies have the same results, shortened or abbreviated reviews but they differ in their approaches. Risk assessment as the name implies identifies specific standards that place clients/children at greatest risk or morbidity or mortality if not complied with. Key indicators are specific standards that statistically predict overall regulatory compliance with all rules. Each has their place in the differential monitoring approach depending on the jurisdictions' emphasis. Most recently, to balance the emphasis on regulatory compliance has been the introduction of quality indicators which are specific standards drawn from quality initiatives, such as professional development, program quality tools, and quality rating & improvement systems.

It is and always has been recommended that these methodologies be used together and not separately. This final study undertaken in the Province of Saskatchewan completes the cycle of doing just that in developing a fully functional differential monitoring system with key licensing and quality indicators as well as risk assessment rules.

THE STUDY DESIGN AND METHOD

The design of this study was to provide a validation study of the use of the Saskatchewan Early Care and Education Quality Key Indicators Tool. A convenience sample was selected in which a good variation of overall quality would be present. There were to be three buckets of quality: High, Middle, and Low. These would be defined via ERS scores. Because this was a validation study it was critical to have sufficient variation in the overall quality of programs to test the sensitivity of the new assessment tool.

The below table (Table 1) provided the guidance to the Saskatchewan Ministry of Education policy staff in determining how to collect the program quality data for the research pilot study related to early childhood quality indicators.

Table 1: Selection Process for Study Programs

Quality	Centers	Classrooms	Ages	Levels	ERS	SKECPQI
High	10	30	10	Infant	A	1
			10	Toddler	B	2
			10	Preschool	C	3
Middle	10	30	10	Infant	A	1
			10	Toddler	B	2
			10	Preschool	C	3
Low	10	30	10	Infant	A	1
			10	Toddler	B	2
			10	Preschool	C	3

Notes:

A = ITERS (Infants) (B-1yr)
B = ITERS (Toddlers) (1yr-2yrs)
C = ECERS (Preschoolers) (3+yrs)
1 = SKECPQI/Infant (QI items 1-5, 7, 9-10)
2 = SKECPQI/Toddler or Preschool (QI items 1-5, 7, 9-10) or (QI items 1-6, 8-10)
3 = SKECPQI/Preschool (QI items 1-6, 8-10)
SKECPQI = Saskatchewan Early Childhood Program Quality Indicators tool

A total of 6 trained data collectors were needed, 3 for the ERSs and 3 for the SKECPQI. Each observer collected data from 30 classrooms. A data coordinator was utilized who collected all the data, reviewed the scores from the various tools and sent them to NARA. The data collectors were not aware of which centers are in which group, such as High, Middle, or Low

See the Appendix for the Draft of the SKECPQI tool that was used during data collection.

As said earlier, this study involves the validation of the Saskatchewan Early Childhood Quality Indicators Tool (SKECPQI) and involved the collection of new data utilizing the new tool and collecting Early Childhood Environmental Rating Scale (ECERS/ITERS) data as well. Independent contract staff were trained in the use of the SKECPQI as well as having had training on the ECERS/ITERS and were proficiently reliable on the ECERS/ITERS.

A sample of 30 childcare programs who volunteer to be part of this study was selected with 1/3 identified as high quality, 1/3 identified as medium quality, 1/3 identified as low quality. Each program

had both the SKECPQI and the ECERS/ITERS administered to them utilizing two independent observers. The data from the SKECPQI was compared to the ECERS/ITERS to determine the relationship between the two/three scales. The research hypothesis is that there will be a positive relationship between the two/three scales in which those programs that score high on the SKECPQI will score high on the ECERS/ITERS and those that score low on the SKECPQI will score low on the ECERS/ITERS. The ECERS/ITERS will be used as the reference tool for establishing the validity of the SKECPQI.

A training program and all necessary revisions to policies and procedures was conducted as part of this project by a NARA Consultant on both phase 1 and 2. It will be determined later if the SKECPQI will be administered on an ongoing basis by contracted staff or by Ministry staff. Reporting templates were developed as part of this implementation stage. The implementation stage was evaluated to make certain that all components are in place and working as they should.

Timeline: Phase 1: 6 months; Phase 2: 9 months; Training and Implementation Phase: 12 months, will overlap with phase 1 and 2 and extend beyond both. The total time frame will be 24 months (about 2 years), this will include the final report and final evaluation of the implementation stage

RESULTS

The ECERS and ITERS were used to validate the new Saskatchewan Early Care and Education Quality Indicators Tool (SKECPQI). This is standard procedure when conducting a validation study, a recognized empirically based and accepted standard tool is used in correlational analyses to determine if the new tool is measuring the same dimensions as the standardized tool.

The target tool, the Saskatchewan Early Care and Education Quality Indicators, was to be validated against the ECERS and ITERS to determine if there was a quality relationship between the two tools.

The validation analyses involved detailed correlational analyses between the various scales to determine if a relationship existed and how strong that relationship was. But before delving into this relationship and these analyses, an additional analysis was performed given the sophisticated nature of the Saskatchewan monitoring system. Saskatchewan's Ministry of Education's designed differential monitoring system is by far the most analyzed of all jurisdictions to date, so it was suggested to take advantage of this level of detail and build in an additional series of analyses to further test the regulatory compliance theory of diminishing returns in conducting this study. By doing so, Saskatchewan joins the ranks of the Provinces of Alberta and Ontario, the US States of Georgia and Washington, and the US National Head Start program in conducting studies to either confirm or not this theory of regulatory compliance (please see the NARA website on key indicators which contains all the research reports). The following results delineate the data from that portion of the study.

As part of the data collection in addition to collecting data on the ECERS and ITERS as well as the Saskatchewan Early Childhood Program Quality Indicators scale, a summary sheet containing regulatory compliance data was also obtained on each program. These data contained essential demographic information as well as violations from the last inspection along with a rating of the program which was cross referenced to the regulatory compliance data to generate a Regulatory Compliance Scale. This Regulatory Compliance Scale (RCS) had four levels of regulatory compliance: Full, Substantial, Medium, and Low. This RCS is like the regulatory compliance structure used in the previous studies in the above-mentioned jurisdictions in the US and Canada and has been further developed as a more valid means for

measuring and analyzing regulatory compliance (Fiene, 2022). In the Fiene RCS, the following rubric was used: ***Full = 0 violations; Substantial = 1-3 violations; Medium = 4-9 violations; and Low = 10+ violations.***

The first set of analyses was to determine if a correlation existed between the RCS and the ECERS and ITERS. This was the case with the following results: RCS x ITERS for the infant classrooms = .54; p < .002; RCS x ITERS for the toddler classrooms = .42; p < .03; and RCS x ECERS for the preschool classrooms = .75; p < .0001.

The second level of analyses (ANOVA) was to determine if the RCS levels of Full, Substantial, Medium, and Low demonstrated any significant differences in the ECERS and ITERS. The results were the following: Infant classrooms: Low = 3.07; Medium = 4.89; Substantial = 5.06; Full = 4.69; F = 11.43; p < .0001. Toddler classrooms: Low = 3.50; Medium = 4.56; Substantial = 4.62; Full = 5.06; F = 2.27; p < .11. Preschool classrooms: Low = 2.78; Medium = 4.39; Substantial = 4.90; Full = 5.12; F = 16.27; p < .0001. Apart from the toddler classrooms, both the infant and preschool classrooms support the regulatory compliance theory of diminishing returns ceiling and plateauing effect when it comes to measuring program quality as one moves up the regulatory compliance scale.

Table 2: Regulatory Compliance Scale (RCS) and ECERS/ITERS Scores

RCS	Infant Classrooms	Toddler Classrooms	Preschool Classrooms
Low	3.07	3.50	2.78
Medium	4.89	4.56	4.39
Substantial	5.06	4.62	4.90
Full	4.69	5.06	5.12
Significance	F = 11.43; p < .0001	F = 2.27; p < .11 NS	F = 16.27; p < .0001

ECERS, ITERS for Infant classrooms, ITERS for Toddler classrooms (n = 90):

The ECERS score ranged from 1.41 to 6.00. The ITERS for infant classrooms ranged from 2.16 to 5.77; and the ITERS for toddler classrooms ranged from 2.14 to 5.90. The respective means for the ECERS, ITERS-Infant classrooms, and the ITERS-Toddler classrooms were the following: 4.09, 4.39, 4.39. The means and ranges were all consistent.

The correlations of the infant, toddler and preschool classrooms in each of the 30 facilities were the following: Infant and Toddler classrooms = .65; p < .0001; Infant and Preschool classrooms = .74; p < .0001; and Toddler and Preschool classrooms = .52; p < .005. The classrooms demonstrated a great deal of consistency across the various facilities which one would expect.

SKECPQI for Preschool, Infant, and Toddler Classrooms (n = 90):

The SKECPQI score ranged from 13 to 100. The SKECPQI for infant classrooms ranged from 31 to 91 (Mean=60.10); the SKECPQI for toddler classrooms ranged from 13 to 100 (Mean=55.07); and the SKECPQI for preschool classrooms ranged from 25 to 100 (Mean=57.48).

The correlations of the infant, toddler, and preschool classrooms in each of the 30 facilities were the following: Infant and Toddler classrooms = .74; p < .0001; Infant and Preschool classrooms = .85; p <

.0001; and Toddler and Preschool classrooms = .75; p < .0001. The classrooms demonstrated a great deal of consistency across the various facilities which one would hope to be the case with this type of tool or scale. Based upon these results, the inter-correlations were extremely high and show a great deal of stability and are a reliable measure of quality indicators.

SKECPQI #2 showed a great deal of promise as a standalone quality indicator. SKECPQI#2 correlated significantly with ITERS (.56; p < .0001), and ECERS (.61; p < .0001) and with the overall SKECPQI scores for infant classrooms (.88; p < .0001), toddler classrooms (.81; p < .0001), and preschool classrooms (.90; p < .0001). This quality indicator dealt with philosophy, curriculum planning and programming. This is not the first time that such an indicator was an excellent predictor. This result has been the case in other program quality studies as well (Fiene, Greenberg, Bergsten, Fegley, Carl, Gibbons, 2002b).

The SKECPQI scale demonstrated a great deal of robustness in the data distribution and a good deal of variation in the data set. These are the characteristics of a new tool that you would hope to find in the scale construction and implementation.

Regulatory Compliance Data for Each of the Programs (n = 30):

The Regulatory Compliance Scale (RCS) distributions were the following: Full = 13%; Substantial = 20%; Medium = 37%; and Low = 27%. Generally regulatory compliance data are more skewed than this distribution but because of the nature of this study, facilities were deliberately selected breaking them up into these categories/levels.

The Regulatory Compliance Scale (RCS) actual regulatory compliance violations played out in the following table, these results for the average number of violations were statistically significant (F = 3.69; p < .03):

Table 3: Regulatory Compliance Scale by the Number of Violations

RCS	Regulatory Compliance Means	Number of Facilities
Low	4.75	8
Medium	3.90	10
Substantial	1.60	5
Full	0	4

Comparing the ECERS and ITERS with SKECPQI and Regulatory Compliance (RCS) Data:

These are the correlations between RCS and SKECPQI for infants, toddlers, and preschool classrooms. RCS x PQI for the infant classrooms = .58; p < .001; RCS x SKECPQI for the toddler classrooms = .51; p < .005; and RCS x SKECPQI for the preschool classrooms = .60; p < .001. The SKECPQI clearly demonstrates its relationship with regulatory compliance. Also, when the SKECPQI is compared with regulatory compliance violation data, the correlations are higher than those obtained in comparing the ERSs to regulatory compliance violation data. And, in fact, the SKECPQI when compared with the RCS appears not to have a ceiling or plateauing effect. It would appear that the SKECPQI is measuring quality in a different way since this effect does not appear evident in the RCS distributions. This result will need to be confirmed in other studies to make certain this relationship holds up. This is a first for comparing regulatory compliance data with program quality data. In the past, either a ceiling or plateauing effect

was always present when looking at the relationship between regulatory compliance and program quality.

Here are the correlations between SKECPQIs and ERSs for infant, toddler, and preschool classrooms: PQI x ITERS for the infant classrooms = .66; p < .0001; PQI x ITERS for the toddler classrooms = .53; p < .003; and PQI x ECERS for the preschool classrooms = .66; p < .0001. These inter-correlations most suggest that the SKECPQI is a valid tool measuring program quality on a different dimension (quality indicators) than the ERS but measuring quality, nonetheless.

A regression analysis determined that with RCS as the dependent variable, ECERS and regulatory violations were statistically significant at the p < .0001 with an R = .91. This accounted for practically 75% of the variance in being able to determine regulatory compliance.

DISCUSSION

Last piece of the puzzle in creating a differential monitoring system, that is how this report is being characterized. The Province of Saskatchewan has undertaken all the other methodologies utilized in a differential monitoring approach (Please see the NARA website for these reports, the link is hot linked on the first page of this report). Licensing key indicators and risk assessment rules have been implemented successfully. What remained were the Quality Indicators. This report completes the full cycle of validating these last indicators.

With the completion of this validation study, the Saskatchewan Early Childhood Program Quality Indicators Scale could be adapted by other jurisdictions and utilized as a screener methodology. The reason for suggesting this approach is that all the quality indicators are taken from the Key Indicator Methodology and therefore have predictive value when it comes to determining overall quality (Fiene, 2019a). Also, the indicators are drawn from several early care and education delivery systems and quality initiatives, such as licensing, QRIS, quality scales, accreditation, and professional development.

The other significant finding from this study was the additional confirmation of the regulatory compliance theory of diminishing returns in which the results from this study are consistent with the findings from other studies conducted in Canada and the United States. This continues to be a major finding when it comes to comparing regulatory compliance with program quality and the resulting ceiling and/or plateauing effect related to quality scores. Again, from a public policy viewpoint, this finding has significant implications in how licensing decisions are or should be made.

A very interesting finding which was not expected was the fact that when the SKECPQI scores were compared with the regulatory compliance violation data the usual ceiling/plateauing effect did not emerge as in previous studies when these types of analyses were performed. This result needs further exploration to determine why this occurred. In future studies utilizing the SKECPQI, it will be necessary to do similar analyses with regulatory compliance data to ascertain if this same result occurs. At this point, it is difficult to determine if it is characteristic within the SKECPQI that is producing this result, such as a better balance between regulatory compliance and program quality. Only with further study will we be better able to determine the cause of this different result.

CONCLUSION

This article will be read with a certain amount of skepticism in that it suggests using differential monitoring on a much broader scale; however, this report is like several other validation studies conducted by NARA over the past decade which have now clearly demonstrated the validity of the differential monitoring approach. And because of these validation studies, the differential monitoring approach has been utilized by many jurisdictions and has been cited in the United States Federal Legislation that reauthorized the Child Care and Development Block Grant. In the legislation, it is suggested but not required that states entertain the use of the approach. Based upon the latest childcare licensing data, it appears that many states have attempted to utilize the approach.

This study fits with the other regulatory compliance theory reports from states and provinces that have been completed over the past decade by NARA. As mentioned in the **Results and Discussion Sections**, this study is the most comprehensive of the group since the Province of Saskatchewan developed not only risk rules and key indicator rules for licensing but also quality indicators that could be used within their differential monitoring system.   This is the first demonstration of this comprehensive approach.

This study completes what was to be a three-year effort but turned into a five-year effort because of the COVID19 Pandemic. Each component of this overall project is well documented on the NARA Key Indicator website. The three major results of this study: confirmation of the regulatory compliance theory of diminishing returns, the introduction of the regulatory compliance scale and the introduction of the Saskatchewan Early Childhood Program Quality Indicators Tool/Scale are all significant contributions to the licensing research literature, but it is this last contribution that needs further development.

The Saskatchewan Early Childhood Program Quality Indicators Tool/Scale is a new program quality tool that is rather robust in measuring quality using key indicators which are taken from various quality initiative studies conducted over the past several decades. The hope is that it will continue within the early care and education field being validated by other researchers and being used to determine the relative scope of program quality in various early care and education settings. We could see the scale being utilized throughout the United States and Canada. It would be an excellent supplement to either the ERS or CLASS tools. It is a simple, straightforward tool that can be easily trained on and administered. It could provide an interesting supplement for licensing staff when they are doing their licensing reviews. In fact, it is intended to be used in conjunction with licensing key indicators and risk rule tools.

Although this was not reported in the **Results Section**, we think it is vitally important to highlight the significant contributions of the licensing staff and others who helped to develop the groupings and levels of regulatory compliance and quality. It was only because of their level of early childhood expertise and their knowledge of the programs that made the sequencing so effective and impactful as an analytical frame of reference.

One last thought is the introduction of the Regulatory Compliance Scale (RCS) as a more logical and robust rubric when comparing regulatory compliance data with program quality. This thought has been presented elsewhere as a possible improvement within licensing measurement and monitoring systems (Fiene, 2022). The scale has been piloted in the past, but this is the first formal test of it in a specific jurisdiction.

For additional information regarding this research validation study, please contact: Richard Fiene PhD, Research Psychologist & Regulatory Scientist, Research Institute for Key Indicators, Penn State University, rfiene@rikinstitute.com

REFERENCES

ACF, (2015). *Caring for Our Children: Basics*, Department of Health and Human Services, Administration for Children and Families, Washington, DC.

Fiene, (2019a). *The Saskatchewan Key Indicator System: The First Step in Developing a Differential Monitoring Approach*, National Association for Regulatory Administration.

Fiene, (2019b). *The Saskatchewan Centre and Home-Based Weighted Risk Assessment Study*, National Association for Regulatory Administration.

Fiene, (2020). *Validation Research Studies of Key Indicator and Risk Assessment Methodologies in the Province of Saskatchewan*, National Association for Regulatory Administration.

Fiene, (2022). *Regulatory Compliance Scale*, Research Institute for Key Indicators.

Fiene, (2002a). *13 Indicators of Quality Child Care: Research Update*, Office of the Assistant Secretary for Planning and Evaluation, 200 Independence Avenue S.W., Room 450G, Hubert Humphrey Building, Washington, DC 20201.

Fiene, (2014a*). Qualistar Rating Key Indicator Study*, National Association for Regulatory Administration.

Lahti, Elicker, Zellman, Fiene, (2014b). Approaches to validating childcare quality rating and improvement systems (QRIS): Results from two states with similar QRIS type designs*, Early Childhood Research Quarterly*, Special Issue.

Fiene, (2019c*). Parental Guide to Choosing Safe and Healthy Child Care*, Office of the Assistant Secretary for Planning and Evaluation, 200 Independence Avenue S.W., Room 450G, Hubert Humphrey Building, Washington, DC 20201.

Fiene, Greenberg, Bergsten, Fegley, Carl, Gibbons, (2002b). *Pennsylvania Early Childhood Program Quality Study*, Harrisburg, Pa: Governor's Office.

Fiene & Kroh, (2000). *Licensing Measurement and Systems,* part of the *NARA Licensing Curriculum*, Virginia: National Association for Regulatory Administration.

Also, check out the following websites for additional Differential Monitoring Reports: https://rikinstitute.com or https://www.naralicensing.org/key-indicators