

Canadian French Classroom Assessment Scoring System Infant, Toddler and Pre-K tools: a Pilot Research



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PRESENTED AT:



INTRODUCTION

Background

High quality early childhood education (ECE) promotes children's development (Britto et al., 2017).

Recently, Quebec’s (Canada) Family Ministry worked towards putting into place a Quality Rating and Improvement Measure within child care centers. (<https://www.mfa.gouv.qc.ca/fr/services-de-garde/cpe-garderies/qualite-educative/Pages/evaluation-amelioration-qualite.aspx>)

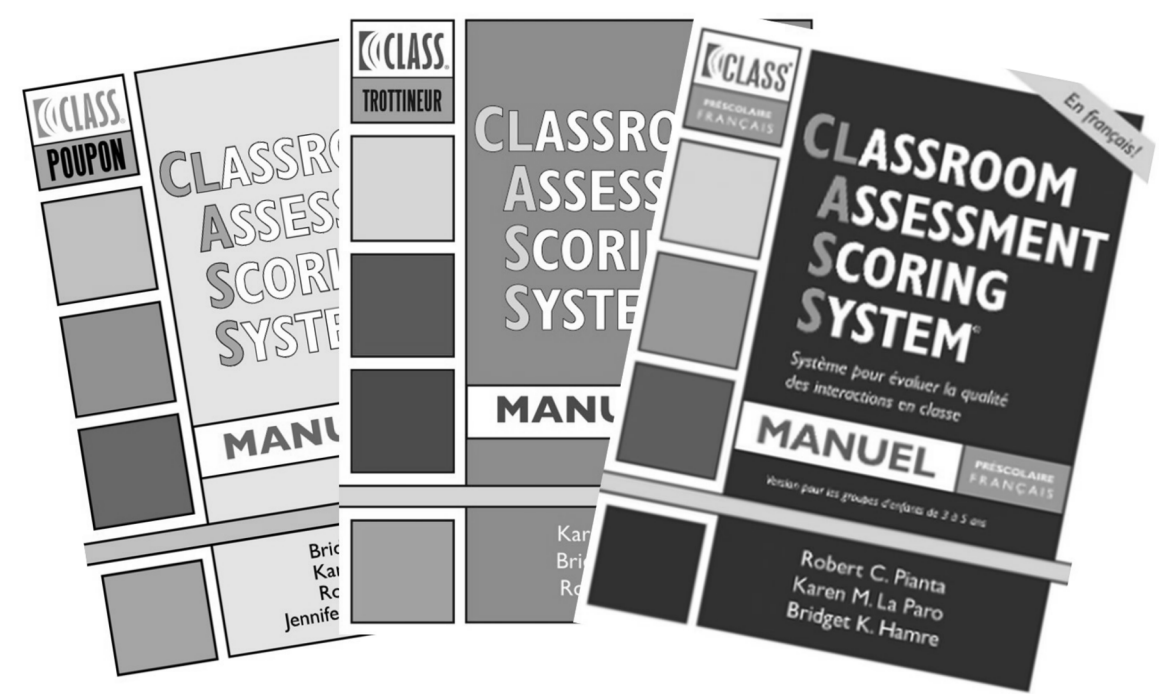
[VIDEO] <https://www.youtube.com/embed/iFS40bMD5nk?rel=0&fs=1&modestbranding=1&rel=0&showinfo=0>

Based on a literature review, Quality of interactions was found to be the most relevant dimension of process quality to assess and the Classroom assessment Scoring System (CLASS; Hamre et al., 2014; La Paro et al., 2012; Pianta et al., 2008) the best tool to measure it.

Preliminary work consisted of translating the CLASS Infant, Toddler and Pre-K tools in Canadian French and to validate the tools.

Objectives

The objectives of the current pilot research is to: 1) describes the data gathered with the translated CLASS tools; 2) presents their reliability and validity.



METHOD

Participants

This pilot research was conducted in Montreal metropolitan area (Quebec, Canada) in the fall of 2018.

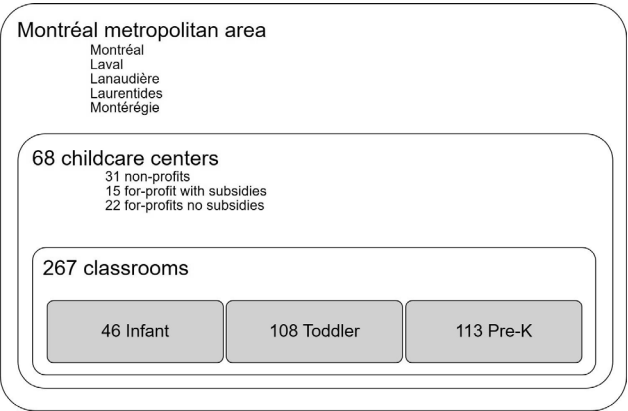
408 ECE centres were randomly selected to be contacted to participate in the pilot research project.

In order to participate, a given ECE centre had:

- to served 0- to 5- year old children and to have at least two groups to observed and their educators agreeing to participate in the project;
- to have been operating for four years or more;
- to have sufficient proficiency in French, which is Quebec’s official language.

Selection criteria was decided to include a proportional representation of the three types of ECE centres (non-profits, for profits with and without subsidies), socio-economic conditions, and a curriculum framework other than Quebec’s curriculum *Accueillir la petite enfance*.

Subjects are :



Instruments

During each observation, trained research staff measured the quality of the overall environment and the quality of interactions. In addition, they obtained general structural quality information.

Variables and instruments	Method and time	Scoring	Training
Quality of interactions Classroom Assessment Scoring System (CLASS) Infant-Poupon (Hamre et al., 2014); Toddler-Trottineur (La Paro et al., 2012); Pre-K-Préscolaire (Pianta et al., 2008).	Live observation 2h	Four 30-min observation cycles, with 20 min of observation followed by 10 min of rating. For each dimension and domain, scores range from 1 to 7. A score of 1 or 2 corresponds to a low score; a score of 3, 4 or 5 to an average level; and a score of 6 or 7 to a high level.	Observers were trained according to Teachstone procedures and also had to pass the reliability certification test.
Quality of the physical environment (Cantin et al., 2017a; 2017b)	Observation 30 min.	11 items assessing whether the layout and furnishing are welcoming, flexible, allow for a diversity of activities and grouping, are appropriate to children’s and educators’ needs, encourage children’s autonomy, etc. Based on the number of features checked according to the scoring guide, each item is assigned a score on a four-point scale ranging from 1 (minimum) to 4 (very good).	Observers were trained for six hours, as suggested by the authors of the scale.
Quality educators’ observation and planning practices (QEOPP; Cantin et Lemire 2017; Cantin et al., 2017c)	Interview 30 min.	30-min semi-structured interview conducted with each educator about their observation and planning practices, including a verification of documents reported during the interview. Includes a total of 8 items, 4 on the educators’ observation practices and 4 on their planning practices. After examining the interview answers and supporting evidence, observers attribute a score for the quality of observation practices and quality of planning practices on a scale of 1 (low quality) to 7 (high quality). In the end, scores of both subscales are averaged into a total score for the entire scale.	Observers were trained for nine hours.
Caregiver-child relationship (CIS; Arnett, 1989)	Observation 5 min	23 items assessing Caregiver-child relationship in 3 cales (Sensitivity, Harshness, Detachment). For the Arnett CIS, observers assign a score of 1 = Not at all, 2 = Somewhat, 3 = Quite a bit, or 4 = Very much for each item.	Observers were trained.

Procedures

Visit to childcare centers were conducted in the fall 2018. Assesement were done in a single visit.

- AM: Observations lasted 2.5 hours, with data collectors observing and scoring the quality of interactions, then the caregiver-child relationship and finally the quality of the physical environnement.
- PM: Interviews were done with each of the educators observed in the morning to assess quality of the educators' observation and planning practices.

A second observer was present in 15% of the group observed.

RESULTS

Descriptives Statistics

Results indicated that scores on the Canadian French CLASS tools were generally higher than those on the original CLASS tools reported by Teachstone.

CLASS Infant - CLASS Poupon

Dimensions		Pilot Research n = 46	Teachstone (CDR) n = 56	Teachstone (UNC) n = 97
Relational Climate	M (/7)	5.65	4.11	5.04
	SD	(0.89)	(1.23)	(1.02)
	Range	2.25-7.00	1.00-6.00	2.00-6.67
Teacher Sensitivity	M (/7)	5.52	4.03	4.75
	SD	(1.02)	(1.28)	(1.16)
	Range	2.00-7.00	1.00-6.00	1.50-7.00
Facilitated Exploration	M (/7)	3.92	3.38	3.68
	SD	(1.36)	(1.18)	(1.07)
	Range	1.00-7.00	1.00-6.00	1.00-6.50
Early Language Support	M (/7)	4.11	3.23	3.31
	SD	(1.38)	(1.08)	(1.19)
	Range	1.00-7.00	1.00-6.00	1.00-6.25
Domain		M (/7)	4.80	4.02
Responsive Caregiving		SD	(1.05)	(n/a)
		Range	1.56-6.75	n/a

^[1] Child Development Resources (CDR) is a research project conducted in Virginia between June 2012 and March 2013 in 56 infant classrooms within childcare centers and home based childcares...

^[2] University of North Carolina (UNC) conducted a research project between 2012 and 2013 in 97 infant classrooms within childcare centres.

CLASS Toddler - CLASS Trottineur

Dimensions		Pilot Research n = 108	Teachstone (NCR-LAP) n = 93
Positive Climate	M (/7)	5.48	5.03
	SD	(1.04)	(1.22)
	Range	2.25-7.00	1.75-7.00
Negative Climate	M (/7)	1.36	2.70
	SD	(0.55)	(0.90)
	Range	1.00-5.00	1.00-6.25
Teacher Sensitivity	M (/7)	5.13	4.33
	SD	(1.10)	(1.16)
	Range	1.50-7.00	2.00-7.00
Regard for Child Perspective	M (/7)	4.26	4.36
	SD	(1.27)	(1.05)
	Range	1.50-7.00	1.50-6.75
Behavior Guidance	M (/7)	4.92	4.07
	SD	(0.96)	(1.29)
	Range	2.50-6.75	1.75-6.50
Facilitation of Learning and Development	M (/7)	3.44	3.43
	SD	(1.01)	(1.20)
	Range	1.50-6.75	1.00-6.50
Quality of Feedback	M (/7)	2.94	n/a
	SD	(1.04)	(n/a)
	Range	1.00-6.00	n/a
Language Modeling	M (/7)	3.28	2.22
	SD	(1.07)	(1.07)
	Range	1.25-6.50	1.00-5.00
Emotional and Behavioral Support		M (/7)	5.29
		SD	(0.84)
		Range	2.60-6.95
Engage Support for Learning		M (/7)	3.22
		SD	(0.97)
		Range	1.25-6.42

^[1] The North Carolina Rated License Assessment Program (NCR-LAP) is a study conducted between 2009 and 2010 at University of North Carolina at Greensboro.

CLASS Pre-K - CLASS Préscolaire

Dimensions		Pilot Research n = 113	Teachstone (MTP) n = 164
Positive Climate	M (/7)	5.92	5.21
	SD	(0.88)	(0.90)
	Range	3.75-7.00	2.70-7.00
Negative Climate	M (/7)	1.34	1.63
	SD	(0.41)	(0.69)
	Range	1.00-3.00	1.00-4.60
Teacher Sensitivity	M (/7)	5.72	4.34
	SD	(0.90)	(0.94)
	Range	3.00-7.00	2.00-7.00
Regard for Child Perspective	M (/7)	4.98	4.36
	SD	(1.14)	(0.97)
	Range	2.00-7.00	2.00-6.30
Behavior Management	M (/7)	5.75	4.94
	SD	(0.94)	(0.88)
	Range	2.75-7.00	2.00-6.70
Productivity	M (/7)	6.19	5.41
	SD	(0.70)	(0.82)
	Range	3.75-7.00	3.00-7.00
Instructional Learning Formats	M (/7)	5.18	4.57
	SD	(0.95)	(0.78)
	Range	2.75-7.00	2.00-6.33
Concept Development	M (/7)	2.11	2.69
	SD	(0.77)	(0.68)
	Range	1.00-4.50	1.50-4.40
Quality of Feedback	M (/7)	2.73	2.87
	SD	(0.97)	(0.85)
	Range	1.00-5.50	1.00-6.00
Language Modeling	M (/7)	3.09	2.85
	SD	(0.87)	(0.73)
	Range	1.00-6.00	1.00-6.00
Emotional Support	M (/7)	5.82	5.07
	SD	(0.69)	(n/a)
	Range	3.81-7.00	n/a
Group Organization	M (/7)	5.70	4.97
	SD	(0.74)	(n/a)
	Range	3.67-7.00	n/a
Instructional Support	M (/7)	2.64	2.80
	SD	(0.79)	(n/a)
	Range	1.17-5.00	n/a

MyTeachingPartner (MTP) is a study conducted by Robert Pianta, Ph.D. between 2004-2005 in 164 Pre-K classrooms located within childcare center in the State of Virginia.

Reliability

Confirmatory factorial analysis

Analysis replicated the factorial structure of the CLASS tools.

CLASS Infant - CLASS Poupon

	Pilot Research		Teachstone	
	CFA without cross-loadings	CFA with cross-loadings	CFA without cross-loadings	CFA with cross-loadings
Relational Climate	0.98	0.79	0.90	0.69
Teacher Sensitivity	0.92	0.69	0.95	0.75
Facilitated Exploration	0.78	0.86	0.75	0.92
Early Language Support	0.74	0.89	0.73	0.88

CLASS Toddler - CLASS Trottineur

	Pilot Research		Teachstone	
	Standardized Coefficients		Standardized Coefficients	
Positive Climate	0.88		0.89	
Negative Climate	0.56		0.58	
Teacher Sensitivity	0.88		0.95	
Regard for Child Perspective	0.76		0.86	
Behavior Guidance	0.88		0.88	
Facilitation of Learning and Development		0.88		0.95
Quality of Feedback		0.92		n/a
Language Modeling		0.88		0.80

CLASS Pre-K - CLASS Précolaire

	Pilot Research			Teachstone MTP		
	Standardized Coefficients			Standardized Coefficients		
Positive Climate	0.80			0.92		
Negative Climate	0.50			n/a		
Teacher Sensitivity	0.91			0.91		
Regard for Child Perspective	0.69			0.85		
Behavior Management		0.91			0.70	
Productivity		0.73			0.56	
Instructional Learning Formats		0.71			0.87	
Concept Development			0.82			0.79
Quality of Feedback			0.88			0.82
Language Modeling			0.84			0.86

^[1] *MyTeachingPartner* (MTP) is a study conducted by Robert Pianta. Ph.D. between 2004-2005 in 164 Pre-K classrooms located within childcare center in the State of Virginia.

Internal Consistency and Inter-rater Reliability

The translated CLASS tools showed good inter-rater reliability and internal consistency.

			Internal Consistency	Inter-rater reliability
Version		Domains	Cronbach's alpha	% absolute agreement
Quality of interactions (CLASS)	Infant - Poupon	Responsive Caregiving	0.91	86%
	Toddler - Trotteur	Emotional and Behavioral Support	0.89	86%
		Engage Support for Learning	0.92	
		Emotional Support	0.80	
	Pre-K - Précolaire	Group Organization	0.81	91%
		Instructional Support	0.88	

Validity

Results provided evidence for concurrent validity. CLASS scores were higher in non-profit childcare centers than in for-profits ones and scores on the CLASS Infant and Toddler were also higher in childcare centers implementing Quebec’s curriculum framework and another educational approach than in those only implementing the former.

Concurrent

	Type of settings	Educational approach
CLASS Infant- Poupon		
Responsive Caregiving	13.64***	15.18***
CLASS Toddler - Trotteur		
Emotional and Behavioral Support	19.95***	9.38**
Engage Support for Learning	15.78***	21.66***
CLASS Pre-K- Précolaire		
Emotional Support	10.18***	2.60
Group Organization	1.84	1.97
Instructional Support	7.11**	0.30
Post-Hoc	Non profits centers > For profits centers	Centers implementing Quebec's curriculum framework and another educational approach > Centers implementing Quebec's curriculum framework

Note. **p*<.05; ***p*<.01; ****p*<.001

Concurrent

CLASS scores were moderately to strongly associated with all other measures of process quality.

	CLASS Infant - Poupon	CLASS Toddler – Trottineur		CLASS Pre-K - Précolaire		
	Responsive Caregiving	Emotional and Behavioral Support	Engage Support for Learning	Emotional Support	Group Organization	Instructional Support
Process quality						
Physical environnement	0.42**	0.41***	0.46**	0.45**	0.33**	0.45**
Observation and planning practices	0.67***	0.48***	0.42***	0.32***	0.33***	0.40***
Caregiver-child relationship Sensitivity	0.65***	0.60***	0.52***	0.70***	0.49***	0.60***
Caregiver-child relationship Harshness	-0.36*	-0.51***	-0.44***	-0.41***	-0.24*	-0.38***
Caregiver-child relationship Detachment	-0.63***	-0.46***	-0.42***	-0.55***	-0.50***	-0.46***

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

Note. Red = small effect; Yellow = small to moderate effect; Green = moderate to large effect.

DISCUSSION

Results provide evidence for the good reliability and validity of the translated CLASS tools.

Cross-cultural differences in the classroom, childcare center, and regulation levels are discuss to explain the higher scores obtained in this pilot research compared to those obtained on the original CLASS tools.

Classroom level

- The activities (content and format) proposed to children might have been different. The pedagogical practice might show high-quality features, less whole-group activities, little direct teaching and more hands on opportunities. Thorpe et al. (2020) have found that CLASS scores could be biai**s** by the type of content and format observed in the classrooms.
- The group size and ratios in Quebec might explain some of the differences observed, as hypothesis by Pakarinen et al. (2010) who obtained higher CLASS scores in Finland.

<i>Age of child</i>	<i>Staff:child ratio</i>
0-17 mos	1:5
18 mos - < 4 yrs	1:8
4 yrs - < 5 yrs	1:10
5 yrs +	1:20

- The ratio in 0-17 month-olds might be higher, but infant are typically older in Quebec's classrooms. Only 2.4% started attending between 0 and 5 month-olds, 37% between 6 and 11 month-olds, 29% between 12 and 17 month-olds and the rest after 18 month-olds (Lavoie, Gingras & Audet, 2019).

Childcare center level

Each center must implement an educational program but some are also adopting another educational approch (e.g. Reggio Emilia, HighScope), which might put increase focus on early childhood pedagogy and educators' intentionnality. This might be especially important when considering the quality offer to infants and toddlers that have been giving rise for concern (Megalonidou, 2020), that could be particularly responsive to such pedagogical initiatives.

Non profit childcare centers, were found to provide higher quality levels as in previous surveys on the subject found (Drouin et al., 2004; Gingras et al., 2015a; 2015b). Several were included in the sample of this pilot research.

Regulation level

In Quebec, several aspect of the regulation at the national level might lead to differences in childcare centers and classrooms that could explain higher CLASS scores.

- A year of maternal leave in Quebec (Canada) leading to older infants in childcare centers.
- All childcare service providers are required to take part in the process to assess and improve educational quality, as set out in section 5.1 of the Educational Childcare Act. Taking part in such Quality Rating and Improvement System have been associated with higher process quality (Slot, 2018).

CONCLUSION

In conclusion, this pilot research indicates that the Canadian French CLASS Infant, Toddler and Pre-K tools could be use in Quebec’s Quality Rating and Improvement Measure.

Since 2019, CASIOPE is responsable of the Canadian French CLASS tools trainings.

[VIDEO] <https://www.youtube.com/embed/yd6DfoChwig?rel=0&fs=1&modestbranding=1&rel=0&showinfo=0>

ABSTRACT

High quality early childhood education promotes children's development. Recently, Quebec's (Canada) Family Ministry worked towards putting into place a Quality Rating and Improvement Measure within child care centers. Based on a literature review, Quality of interactions was found to be the most relevant dimensions of process quality to assess and the Classroom assessment Scoring System (CLASS; Hamre et al., 2014; La Paro et al., 2012; Pianta et al., 2008) the best tool to measure it. Preliminary work consisted of translating the CLASS Infant, Toddler and Pre-K tools in Canadian French and to validate the tools. The aim of the current pilot research is to: 1) describes the data gathered with the translated CLASS tools and, 2) presents their reliability and validity.

This pilot research was conducted in Montreal metropolitan area (Quebec, Canada). Subjects are 267 classrooms (46 Infant, 108 Toddler and 113 Pre-K) located within 68 childcare centers (31 non-profits, 15 for-profit with subsidies, 22 for-profits no subsidies). Live classroom observations were conducted in the fall 2018. Observations lasted 2.5 hours, with data collectors conducting four 30-min CLASS cycles (20-min observation and 10-min scoring) during a single visit. At the end, they also collected data about the quality of the physical environment (Cantin et al., 2017), the educators' observation and planning practices (Cantin et al., 2017) and the caregiver-child relationship (Arnett, 1989).

Results indicated that scores on the Canadian French CLASS tools (CF) were generally higher than those on the original CLASS tools (O). Responsive Caregiving on the CLASS Infant obtained a score of 4.80(CF) compared to 4.20 obtained by the University of North Carolina (O). On the CLASS Toddler, scores obtained were 5.29 for Emotional and Behavioral Support and 3.22 for Engaged support for Learning (CF) compared respectively to 4.62 and 2.83 obtained by the North Carolina Rated Licenses Assessment Program (O). On the CLASS-Pre-K, scores obtained were 5.82 for Emotional Support, 5.70 for Classroom Organization and 2.64 for Instructional Support (CF) compared respectively to 5.07, 4.97 and 2.80 obtained in MyTeachingPartner (O).The translated CLASS tools showed good interrater reliability (86% to 91% agreement) and internal consistency (α from 0.80 to 0.92). Results also provided evidence for convergent validity. Firstly, CLASS scores were higher in non-profit childcare centers than in for-profits ones (Infant: $F(2,50)=13.64$, $p=0.00$; Toddler Emotional and Behavioral Support: $F(2,107)=19.95$, $p=0.00$; Toddler Engaged Support for Learning: $F(2,107)=15.78$, $p=0.00$; Pre-K Emotional Support: $F(2,112)=10.18$, $p=0.00$; Pre-K Instructional Support: $F(2,112)=7.11$, $p=0.00$). Secondly, CLASS scores were associated with quality of the physical environment ($r = .33-.46$), the educators' observation and planning practices ($r = .32-.67$) and the caregiver-child relationship (Sensitivity: $r = .49-.70$; Harshness: $r = -.24--.51$; Detachment: $r = -.42--.63$).

In addition to provide evidence for the good reliability and validity of the translated CLASS tools, the discussion highlights cross-cultural differences in the classrooms, childcare centers, and regulations that could explain the scores obtained in this pilot research. In conclusion, the Canadian French CLASS Infant, Toddler and Pre-K tools could be use in Quebec's Quality Rating and Improvement Measure.

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This poster has been chosen as
one which best reflects
international research.