



# Rapport de recherche

PROGRAMME ACTIONS CONCERTÉES

*La formation continue des enseignant.e.s, axée sur les récits dictés et joués par les enfants, et ses effets sur les enfants en maternelle*

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## **PART A: CONTEXT OF THE RESEARCH**

### **1. Statement of the Problem**

For over a decade, researchers and practitioners have voiced concerns regarding the proliferation of academic expectations and formal instruction in the early years (Cooper et al., 2007), and called instead for a child-centered and play-oriented approach (Bigras et al. 2016; Cooper et al., 2007; Hirsh-Pasek et al., 2009), such as found in the Quebec preschool curricula (Ministère de l'Éducation, 2021). While the benefits of play-based curricula are widely recognized, some studies suggest that teachers need support to embed "intentional teaching" (Bodrova, 2008) in playful activities and scaffold children's learning while following their lead and building on their interests (Bigras et al., 2016; Weisberg et al., 2013). We offered such support to teachers via professional development on story dictation and story enactment: practices that have been shown to promote young children's oral language and emergent literacy.

Introduced as joint practices by Paley (1981), a teacher and lifelong advocate of child-centered education, story dictation and enactment are procedurally simple (see Appendix A). First, at some point in the day (e.g., free play), children are invited to individually tell a story about real or imagined events story to their teacher, who writes it down (i.e., story dictation). Later the same day, the teacher reads the story to the class, and the child who dictated the story acts it out with peers (i.e., story enactment) (Nicolopoulou et al., 2015). While Paley's primary intent in inviting children in her class to dictate and act out stories was to give children an opportunity to share their thoughts with peers (Cooper et al., 2007), the practices can foster not only communication, but also comprehension, exploration of different statement types, and awareness of the function and conventions of writing: features of the competency "communicates using oral and written language" included in Quebec's preschool program (see

Figure 1). Research collaborator Jasmin, whose teaching experience and role in the project are elaborated in Appendix A (p. 26), has also discussed the contribution of story dictation and story enactment to other competencies in the preschool program, in the physical, emotional, social, and cognitive domains (Jasmin, 2021a, Jasmin & Proulx, 2021b).

### Figure 1

#### *Language-Related Components, Quebec Preschool Program*

Oral language	Interacts verbally and nonverbally [Interagir verbalement et non verbalement] Demonstrates understanding [Démontrer sa compréhension] Expands own vocabulary [Élargir son vocabulaire] Explores different kinds of statements [Expérimenter une variété d'énoncés] Develops phonological awareness [Développer sa conscience phonologique]
Written language	Interacts with written language [Interagir avec l'écrit] Recognizes some reading and writing conventions [Connaître des conventions propres à la lecture et à l'écriture] Discovers some functions of writing [Découvrir des fonctions de l'écrit] Knows the letters of the alphabet [Connaître les lettres de l'alphabet]

Note. Drawn from the original *Programme-cycle de l'éducation préscolaire* (Ministère de l'Éducation, 2021, p. 16) and [English version](#) which refers to components as “key features”.

Research has shown, for example, that the joint practices of story dictation and enactment benefit preschoolers' vocabulary (Cooper et al., 2007), sentence structure and knowledge of print conventions (Heppner, 2016), and narrative skills (McNamee et al., 1985). In the most highly controlled of the studies to date, Nicolopoulou et al. (2015) found that three- to four-year-olds who engaged regularly in story dictation and story enactment improved more than a control group on measures of narrative comprehension, print and word awareness, pretense, and social competence. In addition, story enactment alone (i.e., without dictation) has been shown to enhance early narrative skills (Nicolopoulou & Ilgaz, 2013; Pesco & Gagné, 2017). This set of findings, along with the compatibility of the storytelling practices with the Quebec preschool

program, motivated our interest in implementing story dictation and enactment locally as curriculum adjuncts.

We focused on teachers and their kindergarten students in “maternelle 4 ans” or “maternelle” classes (referred to in this report as K4 and K5, respectively) in line with our research focus, and given findings that a sizeable proportion of Quebec kindergarteners (10%) score low on measures of communication and language (Institut de la Statistique du Québec, 2013). Desrosiers and Ducharme (2006) suggested that this proportion may be higher for children exposed to languages other than French or English at home. As summarized in Appendix B and elaborated in the Methodology section, our research with teachers involved individual coaching as well as group sessions where teachers had opportunities to share their experiences and ideas with one another periodically, over a few months. Our approach thus avoided a "one shot" workshop, a type of professional development which is poor at changing teacher practice, according to a review by Cornett and Knight (2008).

Coaching has been shown to positively affect educators' knowledge and practice in supporting children's language and/or literacy, and to result in greater gains for children compared to other forms of professional development (Koh & Neuman, 2009; Neumann & Cunningham, 2009; Ota & Austin, 2013; Wasik, 2010). Buysse et al. (2014) also found that coaching aided preschool educators in supporting dual language learners and led to gains for such children on language and literacy measures. We also met with teachers in small groups, following suggestions in the literature. For example, Cunningham et al. (2015) contends that group study provides educators with opportunities to receive support, counsel, and feedback from peers and Cherrington and Loveridge (2014, p. 43) describe collective reflection as a means of "de-privatizing" teaching, with the potential to transform teacher practice.

### **2/3. Objectives and Research Questions**

The study had three main objectives. The first was to determine whether story dictation and story enactment positively affected the oral language and emergent literacy of children attending the public kindergarten program in Quebec. The associated research question was: (1) Do children whose teachers receive professional development on story dictation and enactment and implement it in their classroom (i.e., the experimental group) exhibit stronger oral language and emergent literacy skills than children whose teachers follow their usual practices (i.e., the control group)? The hypothesis was that children would show better narrative skills and possibly better skills in name writing and letter recognition or letter naming, given previous reports of children's engagement in story dictation and the attention to writing implicit in that practice. The second objective was to determine whether the combined practices of story dictation and story enactment had differential benefits for first and second language learners of French. The research question reflecting this objective was: (2) Do children in the experimental group whose first language is French, as well as those whose first language is neither French nor English, benefit from the intervention? The hypothesis was that both groups would benefit even though they might show differences at pretest.

The third objective was to better understand teacher input during story dictation and enactment and its relationship to children's language and emergent literacy. The associated research questions were: (3a) How do teachers interact with children during story dictations (e.g., do they transcribe the child's words faithfully, ask clarification questions, draw the child's attention to print?); (3b) How do teachers interact with children during story enactments (i.e., what kinds of support do they provide for language and nonverbal communication?); and (3c) How do the observations in both areas relate to the children's posttest measures?

## **PART B: METHODOLOGY (INCLUDING MODIFICATIONS TO INITIAL PROPOSAL)**

To answer **research question 1** regarding the effects of the professional development for teachers on children in their classes, we compared an experimental group (i.e., a class where story dictation and enactment was implemented by the teacher) to a control group (i.e., a class where the teacher followed their usual practices) on pretest and posttest measures. These included measures of story comprehension and production and tasks of letter recognition, letter naming, and name writing (see Appendix B for details). The children were from two kindergarten classes for 4-year-olds (K4) in the same school. The groups were thus matched on neighbourhood SES as per the original study design.

We expected to include several more classrooms in the group comparisons, but the COVID-19 pandemic prevented us from collecting the required posttest data. To elaborate, in March 2020, when the pandemic began, 6 kindergarten teachers and 3 educators at a *Centre de Petite Enfance* (CPE)<sup>1</sup> had received professional development, and we had collected pretest data from 96 children in their classes and from another 24 children in other classes, intended as a control group (with plans to augment the control group in 2021). Concordia University suspended field research in March 2020 due to the COVID-19 pandemic and we were thus unable to re-enter schools to collect posttest data, although teachers reporting continuing with the storytelling practices when possible. Following approval by Concordia's ethics review board to revise the research protocol to accommodate online data collection, we sent a letter home via some teachers asking for parental assistance in gathering data from children via videoconference. As fewer than 7% of parents we contacted responded, we did not pursue this option further.

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<sup>1</sup> The inclusion of CPE and K5 classes was not part of the original proposal, but was undertaken due to initial difficulties in obtaining permission to recruit K4 teachers from school service centres, with approval by representatives from the FRQSC and the Ministère de l'Éducation.



In December 2020, we applied for and received university approval to resume field research and augmented our sample during 2020-21 (see Appendix D for the distribution of participants by school). We curtailed data collection to a single school given the risk of school closures and changes to research regulations during the pandemic, but were able to form an experimental and control group, as alluded to earlier in this section. The two groups comprised 29 children attending one school. The small sample means that claims about generalizability must be cautious: an issue we raise again later in the report. Additionally, as the two classes were comprised nearly exclusively of children acquiring French as a first language, we were not able to carry out the planned comparison of posttest scores for children speaking French as a first vs. a second/additional language (**research question 2**). However, we were able to compare pretest data for first and second language learners in two other settings and report these data to guide future research (see Appendix G). Before the pandemic began, we were also able to videorecord all the participating teachers and children ‘in action’ and thus have data on how teachers implement story dictation and story enactment, allowing a partial answer to **research question 3**.

Notwithstanding the barriers described above, the study is informative. First, we were able to address our first and third research questions to some degree. Second, teachers who engaged in professional development shared with us their perspectives on the story practices and their impact on children and their comments are incorporated to the Results. Third, we analyzed the pretest data for all the children involved, including the K4 experimental and control groups. We thus now have a rich data set from 149 preschoolers in Quebec, including children who speak only French, as well as children who speak and/or understand additional languages, and report some of our findings in this report. Further information about the methods are integrated to the results when needed to permit an understanding of the findings.

## **PART C: RESULTS**

### **1. Main Findings**

#### *Comparison of Experimental and Control Group*

The first research question (see Methodology, p. 5) addressed the effects of story dictation and story enactment, implemented by teachers, on children's oral language and emergent literacy skills. To examine the effects, an experimental and control group in K4 (mean age of 54 months in both groups at pretest) were compared on the pretest and posttest measures noted below. Data were collected only for children whose parents gave consent, but children whose parents did not consent still participated with their teacher and peers in the story activities.

Children's pretest and posttest measures were scored by a research team member, and a subset of the data (20-30%, depending on the measure) was later scored independently by a different team member. Interscorer reliability was very good to excellent. Descriptive statistics for the measures are provided in Appendix E for the K4 experimental and control groups only. As explained above, the COVID pandemic prevented the collection of posttest data for another 120 children. Their pretest results are reported only in Appendix G to respect page limitations.

*Narrative Comprehension and Production.* The Edmonton Narrative Norms Instrument (ENNI; Schneider et al., 2005) was used to assess children's understanding and production of story grammar elements such as the setting, the characters, the central problem in the story, and characters' reactions to the problem and its resolution. In keeping with the standard administration of the task, children were first invited to tell a story based on a series of illustrations (production task) and then to respond to questions about the story implied by the illustrations (comprehension task).

For the ENNI comprehension measure, children in the experimental group ( $n = 13$ ) made

significantly greater gains than the control group ( $n = 14$ ) over the same period of 16 weeks as measured by an independent samples t-test:  $t(25) = 2.99$ ,  $p = .004$ . The experimental group ( $M = 10.46$ ,  $SD = 5.67$ ) improved significantly more than the control group ( $M = 3.57$ ,  $SD = 6.25$ ). Moreover, although the experimental group had significantly lower scores at pretest ( $M = 28.08$ ,  $SD = 8.36$ ) than the control group ( $M = 34.29$ ,  $SD = 6.71$ ), their mean score slightly surpassed that of the control group at posttest. These findings were in line with our hypothesis that the experimental group would make larger gains in narrative comprehension than the control group.

For the ENNI production task, the stories children produced were transcribed and scored for story grammar components, according to the measure guidelines (one child had insufficient verbal skills to complete the task and another child's story was not recorded due to a technical problem, hence the smaller  $n$ ). The gains made by the experimental ( $n = 12$ ) and control ( $n = 14$ ) groups were not significantly different, although the gain in the experimental group ( $M = 2.58$ ,  $SD = 5.45$ ) was more modest and more variable than in the control group ( $M = 5.42$ ,  $SD = 4.57$ ). The ENNI stories were also analyzed in terms of their length, specifically the number of independent clauses the children produced (alone or accompanied by a dependent clause). There was again no significant difference between groups on the gain scores. Thus, the hypothesis that the experimental group would show greater gains than the control group on story production was not supported.

The children were also asked to tell a story about something they had experienced. Stories of personal experience have been found to emerge earlier than fictional stories in preschoolers' spontaneous discourse, likely because they allow children to communicate important events in their own lives to others (McCabe et al., 2008). The personal stories were elicited with prompts provided in the Test of Personal Generation (Spencer & Petersen, 2010;

see Appendix C for details), whereby an adult reads to the child a brief story about a common event commonly experienced by children and then asks the child about a similar event in their own lives. The narratives the children produced were transcribed and scored using the Narrative Assessment Protocol-2 (Bowles et al., 2020), adapted by us to French. The composite score for each child comprises story grammar elements, dialogue, causal and temporal markers, subordination, and adverbs and adjectives: elements which enhance storytelling. The gains in the experimental and control groups did not differ significantly. We also noted considerable diversity in the two groups, reflected in the standard deviations of the means (experimental SD = 6.84, control SD = 7.00). The range of performance on this task, with some children even decreasing at posttest, was an unexpected finding that we return to in later sections of this report.

***Emergent Literacy Measures.*** Emergent literacy includes the ability recognize and name letters and to write one's own name (print concepts and phonological awareness were not examined in the present study but are also key to later literacy). To assess children's knowledge in these areas, we presented children with an array of 10 consonants (see Appendix B for details), pronounced the letter names one-by-one, and asked children to point to the letter we had named. We then presented children with the same consonants in a different order and asked children to independently name them. There were no differences between the experimental and comparison groups gains on either task, and the children tended to have low scores at both pretest and posttest, as shown in Appendix E. Thus, although we anticipated that the attention to writing implicit in story dictation might lead to improvements on the letter tasks, the children did not outperform the control group. However, children in both groups did show a small and significant increase in name writing, as measured via a system we adapted from Puranik and

Lonigan (2011) that considers the form, sequence, direction, and linearity of the letters the child produces (see Appendix C).

***Story Dictations.*** The number of stories the children in the experimental group dictated was also tallied. The number varied by child, reflecting differences in children's voluntary participation as well as the number of opportunities the teacher gave children to engage in the story dictation and story acting activities. The range was 2 to 5 dictations per child ( $M = 3.4$ ,  $SD = .74$ ) over a 12-week period. Sample dictations from two different children in K4 are provided in Appendix F. Given findings from our 2019-20 dataset (see Appendix G), we did not expect changes in the quality of the dictated stories as measured with the NAP scoring system (p. 15). We thus eliminated that analysis. In the Future Directions sections, however, we outline plans to analyze the dictation themes to answer research questions adjacent to the present study.

### ***Teachers' Perspectives on Story Practices and Impact on Children***

Although data collection from children was halted due to the pandemic, we remained in contact with the six kindergarten teachers participating during the 2019-2020 school year and were thus able to gather their impressions in Spring 2020 regarding the practices and their impact on children in their classes. The six teachers uniformly reported that children in their classes enjoyed the activities, reflected in the words of one teacher (translated from the French): "*I think the children really had a lot of fun, and were very proud of themselves*". Another teacher noted that children in her class were especially proud of authoring stories, and valued the individual attention the teacher provided during the story dictations. The teachers also commented that story acting allowed all children to participate. For example, one teacher stated that the story acting gave children who were introverted or academically "*weak*" a platform to express themselves

and demonstrate their “*artistic side*” in miming the stories and taking on a character role.

Another teacher commented:

*“I think some students were too shy to come up with their own stories, but they definitely participated in the acting out portion of the activities. And they learned even when they were not actively participating.”*

Others highlighted the opportunity the practices gave them to observe children’s strengths. For example, one teacher noted, in discussing a particular child: *“I noticed that he had a large vocabulary, thanks to that [dictation activity].”*

Teachers also highlighted the positive impact of the practices for children in other areas, including creativity, self-confidence, and peer interactions, as revealed in the following comments (translated from French).

*“I really really enjoyed the project. It was disappointing that we couldn’t finish and see the results, because I’m sure that they learned a lot: using their imagination to invent a story, and gaining some confidence to get ready for grade 1. I’m certain that if we had had time to finish, we would have seen a real impact.”*

*“I think the children also learned to respect each other, because they had to listen to others, respect their ideas, respect the fact that they had to take turns, and respect each other’s physical environment ... I think it helps teach them lots of values, like respect.”*

*“They ...learned how to act things out in front of others. So, it’s more than just learning to tell a story, it’s also figuring out how to move ... to be spontaneous, to be confident. And then another advantage, a social advantage, is developing their self-esteem. Which is nice ... It [also] gives them the opportunity to collectively participate in something, to create something all together, that requires new abilities.”*

Teachers were also asked about carrying out the activities, which were new to all.

Teachers met with some challenges such as finding the time to complete the activities and collect the stories individually while attending to the needs of the other children. This issue was especially prominent in a meeting of three kindergarten teachers working in the same school.

Two teachers in another region (working in different schools but meeting as part of the same

group for professional development) worked around this issue by integrating the storytelling to their morning routine; one child would tell a story daily, during circle time, and children would act out the story immediately afterwards. The third teacher did not express any difficulty. From a pedagogical point of view, some teachers were uncertain about how to enrich children's stories while still following the children's lead: issues we return to in the sections Potential Solutions/Actions (p. 17) and Future Directions (p. 23).

### ***Observations of Teachers***

As described in the Methodology section, we originally aimed to examine teacher input during the story dictation and story enactment sessions to answer research questions 3a and 3b (re: teacher input to children during story dictations and story enactments) as well as 3c (re: teacher input as a predictor of children's scores at posttest; see p. 4). The absence of posttests for all but one K4 experimental group prevented the latter analysis (while we had some posttest data, it did not suffice for the kinds of analyses we had planned). We were also unable to record the teachers a second and third time in most classrooms, due to the university-wide suspension of research with humans. On the positive side, in keeping with our original plan, we were able to (a) demonstrate the storytelling practices in each class before the teachers began implementing the story dictation and enactment approach; (b) videorecord all teachers at least once as they transcribed stories from 3-4 children and then engaged their class in acting out the stories; and (c) review the videoclips with the teachers to elicit their reflections and guide discussion (see Appendix B). The review of videoclips took place in groups for K5 teachers, according to their preference. The K4 teacher was the sole participant in 2020-21 and thus, also reviewed the clips individually with the primary investigator.

Prior to the meetings with teachers, the research team used a checklist to record their use

of a core set of procedures that we had introduced through the professional development. These procedures, which are relatively standard in story dictation and story enactment according to research and practitioner guides, are shown in Appendix H. They are also reflected in a teacher guide we have prepared and will be available from the first author as of September 2022.

Overall, we found a high level of fidelity to the procedures. The sole exception was drawing children's attention to print. While some teachers did this, the recordings suggested most did not do it routinely. Interestingly, the recordings showed that children's gaze was nevertheless often fixated on the page as the teacher wrote.

We also used event sampling to capture other strategies discussed with teachers in the professional development sessions that they could use to promote story enactment generally, and facilitate children's nonverbal expression and story comprehension. More specifically, we recorded the teacher behaviours and statements appearing in Figure 2 and have listed them in order of frequency, considering the data from all the kindergarten teachers. The examples provided are taken from our data. As the figure shows, teachers used a range of strategies to support children's story enactments. The most common was to encourage children to think for themselves by soliciting their ideas for acting out roles, though teachers also showed children what they could do on occasion (as reflected in the final table row). The second and third most common strategies employed by teachers were (a) add to children's stories, by expressing engagement, narrating what they saw children doing, or introducing a new word and (b) rephrase a child's words, mainly to replace pronouns with nouns to either clarify meaning or remind children of their roles. Teachers also expressed their appreciation of children's acting during or after enactments, as indicated in the fourth and fifth rows of the figure.



**Figure 2**

*Strategies Used by Teachers During Story Enactment (ordered from most to least used)*

1) Makes verbal suggestion for acting out a role, using either of the following: question (e.g., <i>Comment appeler l'ambulance? Comment vas-tu faire la belle reine?</i> ) or statement (e.g., <i>Il se baigne</i> when a child seeks ideas to act out 'a child at the beach')
2) Elaborates on the story by: <ul style="list-style-type: none"> <li>· adding sound effects or exclamations (e.g., <i>Uhoh!</i>)</li> <li>· clarifying a reference in the story (e.g., <i>glouton - tu sais, le phantom vert</i>)</li> <li>· adding words such as adjectives or phrases (e.g., <i>Le petit chaton se promène</i>)</li> <li>· substituting one word for another (e.g., <i>plonger</i> for <i>aller dans l'eau</i>)</li> <li>· adding temporal markers (e.g., <i>Ensuite ...</i>)</li> <li>· adding formulaic story elements (e.g., <i>Il était un fois ...</i>)</li> </ul>
3) Rephrases to enhance story clarity and/or aid in children's recall of their roles (for example, by replacing subject pronouns in the child's stories with nouns). <i>Il attaque</i> changed to <i>Le minou attaque</i> .
4) Provides ritual ending or remarks on acting once complete (e.g., evaluates performance) <i>Super! Merci, on les applaudit.</i>
5) Praises the acting or remarks on the story events or characters without adding to the story <i>C'est bon! Un chat debout, pourquoi pas?</i>
6) Shows a way to act out role in the story (e.g., through gesture, mime, or physical guidance) <i>Pretends to roll out dough with a rolling pin as a means of showing "baking"</i> <i>Helps the children make a house by joining their hands to form a pointed roof.</i>

**2. Implications**

The findings of the experimental-control comparison provide support for the use of story dictation and story enactment in kindergarten classes, particularly to improve narrative comprehension. While narrative expression did not improve significantly, this could be due to the length of time that the teacher implemented the practices (12 weeks), and the low number of

dictations children produced in that period. The practices did not positively affect emergent literacy, at least in the ways we measured it; a measure of print concepts might have yielded positive effects since we observed children's attention to and interest in teacher's transcriptions of their stories (see Potential/Solutions section for further discussion of these points).

The analysis of teacher input and direct feedback from teachers indicate that they adopted the core procedures of story dictation and story acting and were also gradually able to support children's communication in the context of these activities, with the research team's support. Teachers stated that they found the practices beneficial not only for communication, but also for social-emotional outcomes targeted by the preschool program, such as self-confidence and collaboration with peers. They reported yet other benefits in the area of cognition, particularly mentioning the opportunities children had to use their imagination. The diverse benefits teachers reported are encouraging and consistent with Jasmin's (2021a) evaluation of the fit between the Quebec preschool program and the storytelling practices. Teachers also uniformly reported that children enjoyed story dictation and story acting and our review of the video recordings confirm these impressions. Considering the positive findings, we intend to share our findings with more teachers through professional development workshops and have developed a guide for teachers, integrating some of the materials we used in the present study (we are submitting a preliminary version of the guide along with this report, and a final version will be available as of Fall 2022 from the report's first author). With respect to research implications, our study provides a rich data set that can be examined further and in collaboration with other Quebec researchers. More specific ideas are outlined in the Future Directions section of the report.

### **3. Contribution to Knowledge**

While the pandemic thwarted the collection of posttest data from most participating children, results from one experimental-control comparison showed positive effects of story dictation and story acting on children's story comprehension. Our results concur with Nicolopoulou et al. (2015) but extends previous research by sampling children in Quebec for the first time and by incorporating professional development to allow teachers to implement the storytelling approach. The result is also promising given the importance of listening comprehension for later reading comprehension (e.g., Hoover & Gough, 1990). Moreover, story comprehension fits with the broader goal of "demonstrates understanding" included in Quebec's preschool program (Ministère de l'Éducation, 2021).

Our study also makes an original contribution by examining how teachers interact with children during story acting. The coding system we developed could be used by others. The findings are also novel, revealing teachers' ability to support a variety of competencies in the context of story acting, as well as opportunities afforded by story acting to enlarge children's vocabulary – another important competency in Quebec's preschool program.

Finally, the study provides information on teachers' perspectives on story dictation and story acting as well as its benefits for children. The information was collected informally as we wrapped up professional development during the pandemic, but led to the creation of focus group questions (approved by the University's ethical review board) that we can now use to examine teachers' views more systematically. We attempted to recruit a small group of teachers for professional development followed by focus group discussions in 2021-22, but were unsuccessful, with teachers citing the COVID-19 pandemic or a lack of follow-up by the school principal as barriers to participation.

## **PART D: POTENTIAL SOLUTIONS/ACTIONS**

### **1. Significance of Findings and Recommendations by Audience**

The study investigated the impact of story dictation and story acting, joint practices, as implemented by teachers following professional development. As described in previous sections, positive effects were found for the story comprehension of children in one K4 (“maternelle 4 ans”) class, compared to a control class. For other posttest measures, the K4 experimental and control group performed similarly: both groups improved in story production and name writing from pretest to posttest, and neither improved significantly on letter recognition and naming. Thus, although the new practices did not enhance the experimental group’s performance in all the expected areas, they did not seem to impede it either. Greater effects might also have been seen had we been able to study the children over a longer period (we were permitted to resume research December 2020, leaving just a few months to carry out the research from start to finish).

Posttest data collection from six classes of K5, along with 3 CPE groups, was unfortunately prevented by the pandemic, but positive effects on children’s communication and in emotional, social, and cognitive domains were reported by teachers. The project inspired enthusiasm by children and teachers alike and was also very well-received by principals and pedagogical counsellors (one vice principal and two pedagogical counsellors, in different schools, voluntarily attended professional development sessions, and another pedagogical counsellor initially expressed interest but was on medical leave). A highly experienced teacher also joined our project as a collaborator (see pp. 2 and 26). Finally, most parents granted permission for their child to participate, suggesting they were at ease with the practices. Our findings and observations lead to the following conclusions and recommendations.

***Decision-Makers.*** The information gathered provides evidence that story dictation and

story acting are (a) effective in augmenting comprehension, a competency in the preschool curriculum; (b) provide clear opportunities to address additional oral language competencies, namely verbal and nonverbal interaction, vocabulary breadth, children's experimentation with various statement types, interaction with writing, and the functions of writing as the children witness their own stories becoming written texts as the teacher transcribes them. Additionally, acting out stories (simply through mime, without props or dialogue) provides children with opportunities to collaborate with peers, gain self-esteem (evident in the children's pride in authoring stories), and self-regulate as they await their roles and attend to the stories as they are read aloud and enacted. The practices are highly suited to the preschool program in terms of the competencies they address. They are also consistent with the play-centred curriculum as the story acting is, in our view, akin to guided play, which has been shown to have benefits for language development in early childhood (Weisberg et al., 2013). The practices are also inclusive, as they allow children with various language levels and mother tongues to participate. Moreover, the practices were appreciated in schools with 4<sup>th</sup> to 10<sup>th</sup> percentile rankings of socioeconomic risk. While our evidence for effectiveness of the practices on language skills was limited by the loss of posttest data, the evidence we do provide combined with findings from other research teams these practices are effective at augmenting children's language and social skills. Moreover, the Boston Listens project has set a precedent by implementing the practices in schools district-wide (Mardell, 2013). Taking these various factors into account, we favour the incorporation of these practices to the preschool program.

There are, however, steps that we believe are key to implanting the practices smoothly and rendering the practices effective. As shown in Appendix B, teachers in our study participated in several hours of professional development, including: an introduction to the practices, in-class

demonstrations, coaching informed by videorecorded observations of the teachers implementing the practices, and discussion of challenges, supplemented with written material that we have now compiled to a teacher guide. Professional development would continue to be necessary for at least one lead teacher in a school or for a pedagogical counsellor in a region, that could then act as a resource for other teachers. If permission to record the activities in classrooms could be negotiated with the ministry of education, teachers, and parents, video review could be a complementary means of preparing teachers. Seeing the practices in action is certainly helpful to teachers, and although a few short videos are available in English and were subtitled by us in French for the purposes of our project, resources in French are sorely lacking.

On a more general note, we had originally planned to conduct some of the professional development outside of work hours with compensation to allow teachers from different regions to come together. This format did not seem to interest teachers; they much preferred being released during work hours and we switched to that option. At the same time, during the pandemic, teachers became accustomed to virtual meetings, and participated in these when physical meetings were prohibited. Thus, the possibilities for bringing teachers together for professional development have now expanded.

*Managers.* As noted above (p. 17), the teachers, school principals, and pedagogical counsellors involved in our research were enthusiastic about it. Unfortunately, some school service centers declined the project, citing other commitments for schools in their region. In these cases, we were not authorized to contact school personnel directly to gauge interest. We would recommend that school principals and pedagogical counsellors let their school service centers know if they are interested in literacy research given that the Ministère de l'Éducation regularly funds research in this area (as well as in other areas).

Aside from this general recommendation, the study we conducted showed that kindergarteners who engaged in story dictation and enactment improved more on story comprehension than peers in another class that did not. According to teacher reports, the children also improved on a variety of other skills that we did not measure. We believe, however, that the dictation-enactment approach could have even more impact if it was integrated – in the teacher’s mind, not logistically - with other practices in the kindergarten classroom (e.g., interactive storybook reading or pretend play incorporating writing and reading materials). Pedagogical counsellors could play an important role in helping teachers achieve this integration, or could even introduce the storytelling approach to teachers following tailored professional development (something our team could potentially provide).

In terms of the format for professional development, teachers expressed eagerness to share ideas with one another, and appeared to benefit from hearing about pedagogical strategies in a group. The observations in classrooms, however, was also key in allowing us to provide individualized feedback to teachers, and in allowing teachers, in turn, to appropriate the practices we had introduced. We therefore recommend that group work and individualized feedback continue to be implemented in professional development, at least in the area we describe.

***Practitioners.*** As discussed throughout this report, story dictation and story enactment benefitted children’s story comprehension and teachers and educators who participated in the research reported benefits in many other areas we did not measure (e.g., self-confidence, peer interaction, use of imagination). Teachers were also overall very positive about the practices, and children appeared to thoroughly enjoy them. Teachers did, however, meet with some challenges that we address here, with some potential ways of addressing them. First, some teachers found it difficult to find time for the practices, even though the practices need no preparation and little

time (typically, it took teachers just a few minutes to transcribe one story and have the children act it out). Second, the teachers sometimes found it difficult to transcribe a child's story while simultaneously needing to supervise other children. The solutions generated by teachers and the research team included: inviting children's dictations during free play when another adult (volunteer or assistant) is in the room; inviting dictations during circle time, with turn rotation (an approach adopted by some teachers, but one that limited children's turns to about once per month, and could reduce some children's desire to tell a story); and concentrating the storytelling (e.g., permitting 3 dictations and enactments on three days), thus reducing transition times while augmenting children's weekly participation.

Another concern related to the content of children's stories. For example, teachers were not sure how to respond to repetitive themes. Teachers and research team members discussed both (a) the potential benefits of children repeating themes that preoccupied them individually, or of children borrowing themes from peers, and (b) the ways teachers could expose children to diverse stories and thus implicitly nourish their stories, without asking children to abandon certain themes or interests. Additionally, teachers and the research team identified ways that teachers could exploit "teaching moments" during story enactment, without taking over the activity nor spoiling its playfulness. These are but two examples of the productive discussions evoked by the storytelling practices. Given teachers' satisfaction with these discussions, we recommend that other teachers interested in adopting story dictation and story enactment do so with a partner or group, and together consider how the practices fit with their other practices and can be implemented to best support the development of children in their classes.

## **2. Limitations and Cautions**

As described earlier in the report, we initially experienced some difficulty recruiting



teachers, and although we eventually overcame this difficulty, and had 120 children enrolled in the study in 2019-20, restrictions on research during the pandemic prevented the gathering of posttest data. Thus, the pretest-posttest comparisons key to our design were limited to two K4 classes, in a school with a 6<sup>th</sup> decile ranking of socioeconomic risk (in schools where collection of posttest data was barred, rankings were from the 4<sup>th</sup> to 10<sup>th</sup> deciles; Ministère de l'Éducation, 2020). This small and restricted sample means the results should be generalized with caution. Additionally, while we have referred to the K4 class where the teacher received professional development as the “experimental group” and a second K4 class as the “control group”, the study was quasi-experimental (i.e., children were not randomly assigned to group). While this is a very common design in educational research, it augments the possibility of non-equivalent groups. In our study, the selection of classes from the same school mitigated some potential differences, but did not exclude others. The teacher in the experimental K4 group, for instance, was less experienced than the teacher of the control group, but this was not a variable we controlled for.

A second limitation relates to the children’s language exposure. The children in the K4 comparison all spoke French as a first language. While we hypothesized that children who spoke other languages would also benefit from the storytelling practices, and included such children in our sample, we could not test our hypothesis due to the suspension of research (we do, however, provide pretest data by language group that could serve in future studies; see Appendix G).

The measures we selected to assess emergent literacy were limited to letter recognition, and letter and name writing. We omitted other tasks to limit the length of testing sessions given the children's age and the space available in schools for testing, but a measure of print concepts (including functions of writing) may have shown improvement given children’s overt attention to their teacher’s story transcriptions and reading of their words aloud during story enactment.

## **PART E: FUTURE DIRECTIONS**

The most obvious next step would be to expand our experimental-control comparisons, but as student assistants have graduated and our faculty team members have become more dispersed geographically, gathering new data is not in our immediate plans. As noted on p. 16, however, we already have ethical approval to provide a shorter form of professional development to teachers, followed by focus groups to gather teachers' perspectives on the practices and their benefits. This might still be possible (teacher interest waned this year, but might be revived).

Our pretest data can also be analyzed more intensively. A graduate student in Pesco's research group has already investigated a subset of the children's use of devices such as dialogue and emotional vocabulary to add sparkle to their ENNI stories. We intend to complete those analyses for the full sample. Additionally, we have reported on ENNI stories told in French by 60 bi- and multilingual kindergarteners attending Quebec schools, collected as part of another study (Macleod & Pesco, submitted). Combined with the data reported here, data gathered by Catherine Gosselin-Lavoie (recently graduated with a PhD from U. de Montréal), and published data from Thordardottir et al. (2010), we now have a reasonably large Quebec dataset that can (a) accommodate analyses of multiple predictors of children's narrative skills (e.g., age, gender, school SES, first language) and (b) potentially provide reference points for speech-language specialists and Quebec researchers to interpret scores on this measure, as it is not standardized in French. Consolidation of data across labs is a promising avenue we shall pursue.

Graduate students have also implemented the storytelling practices themselves under Pesco's supervision, in internships or in studies independent from the present one. Their work has elucidated themes in children's story dictations and shed light on what children deem worthy of a story. This is also an area that merits exploration in the current dataset.

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## Appendix A

### The Story Dictation and Enactment Approach

The procedures shared with teachers can be found in a guide available from the authors as of September 2022, and are depicted in broad terms in the figure below. The procedures were based on the literature on story dictation/story acting, as well as expert advice from a retired teacher, Ms. Danielle Jasmin, who has over three decades of experience as a kindergarten and primary teacher, and furthermore, has implemented the approach in local schools on a voluntary basis. Ms. Jasmin was a highly valued consultant for the project and took a lead role in providing professional development for one of the schools, alongside the first author. Ms. Jasmin had also prepared a document on the topic for teachers in 2016 that she has now updated in light of the new preschool program (Jasmin, 2021a; see reference list).



Note: To protect confidentiality, the images are not of our study participants. In our study, children were typically seated right beside their teacher (rather than standing as shown on the left).

## Appendix B

### Overview of Professional Development for Teachers and Educators

- ❖ Introduction
- ❖ Demonstration by research team members of transcribing children's stories and engaging children in acting out stories (in each class, separately)
- ❖ First observation of teachers (videorecorded) carrying out story dictation and enactment
- ❖ Coaching and reflection session 1, including review of videoclips and discussion of successes as well as challenges and potential solutions (mostly in groups, according to teacher preference)
- ❖ Second observation of teachers during story dictation and story enactment <sup>a</sup>
- ❖ Coaching and reflection session 2 (as described above)
- ❖ Third observation of teachers <sup>ab</sup>
- ❖ Wrap-up session <sup>b</sup>

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<sup>a</sup> Omitted for K5 teachers in 2019-20 due to pandemic

<sup>b</sup> Omitted for CPE educators in 2019-20 due to pandemic

## Appendix C

### Child Measures

a) Edmonton Narrative Norms Instrument (ENNI; Schneider et al., 2005)

For this measure of narrative skills, the child is asked to tell a story from a series of pictures and to answer questions about the depicted story. The illustrations involve events such as a character dropping a toy in a pool, and the actions various characters take to retrieve the toy (See <http://www.rehabmed.ualberta.ca/spa/enni/> and <http://www.rehabresearch.ualberta.ca/enni/ENNI-en-francais> for details)



Copyrighted image from Schneider et al. (2005), available to the public at <http://www.rehabresearch.ualberta.ca/enni/>

b) Échelle de vocabulaire en images Peabody (EVIP; Dunn et al., 1993).

For this standardized measure of receptive vocabulary, the child is asked to point to the picture (of 4) which best corresponds to the meaning of a word read aloud by the examiner, as illustrated in the image below.



c) Test of Personal Generation (Spencer & Petersen, 2010)

As described in the text, the examiner read a story aloud in the first person, translated from English to French by a member of the research team, as follows:

*« Une fois, je courrais dans la cour d'école parce que je jouais à la tag avec mes amis. J'ai trébuchée et je suis tombée par terre. Je me suis tout égratigné les mains et les genoux. J'étais vraiment triste parce que j'avais mal aux mains et aux genoux. Après, je suis allée voir mon*

*éducatrice et je lui ai dit : « Je me suis fait mal. » L'éducatrice très gentille a mis des band-aids sur mes mains et mes genoux. Après, je suis retournée jouer à la tag avec mes amis. »*

The examiner then asked the child. « *Est-ce que quelque chose comme ça t'es déjà arrivé?* » (Did something like that ever happen to you?). If the child did not respond or responded only minimally, the examiner followed with scripted prompts for each story to encourage the child further or switched to a new prompt:

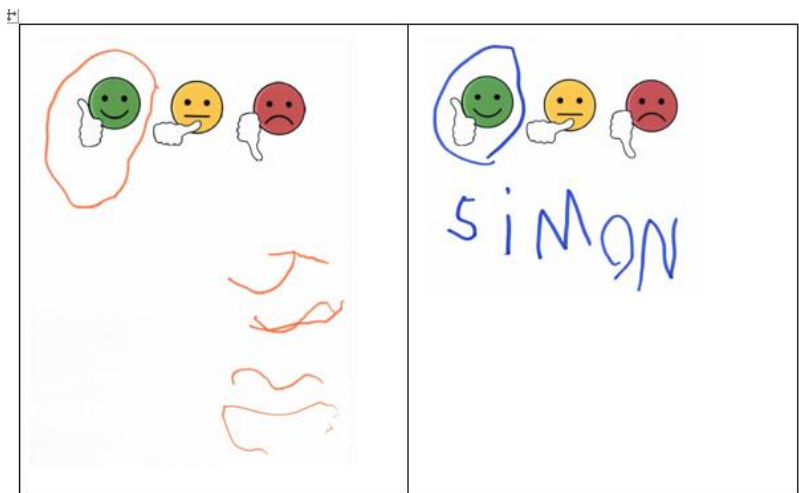
*« Une fois, je jouais dans la cuisine avec mes blocs. Mon frère est venu dans la cuisine et il a pris mes blocs parce qu'il voulait jouer avec eux. J'étais vraiment fâché contre mon frère parce qu'il a pris les blocs. Je lui ai demandé de me redonner mes blocs, et mon frère a dit : « Ok, excuse-moi d'avoir pris tes blocs. » Mon frère m'a redonné les blocs. Après, nous avons joué avec les blocs ensemble. »*

#### d) Letter recognition and naming

These two tasks are described in the text. The letters presented, all in capitals, included half pronounced as consonant-vowel (i.e., B, D, P, T, V) and the other half pronounced as vowel-consonant (i.e., F, L, M, N, S). The selection of the consonants followed Biot-Chevrier et al. (2008).

#### e) Name writing task (adapted scoring from Puranik & Lonigan, 2011)

For this task, we wanted children to feel motivated to write their names. We thus asked them to circle a picture that best reflected their feeling about the testing session and then write their name on the page. Two children's results follow, selected to show both a range of performance and to protect children's identities by showing an illegible name on the left and a common name amongst Quebec children on the right.





## Appendix D

### Teacher and Child Participants by Setting

**Table 1**

*Participants by Setting*

# of practitioners receiving professional development	# of children	% of sample	kindergarten level
CPE 1 (3 educators)	30	20.1	-
School 1 (1 teacher <sup>a</sup> )	29	19.5	K4
School 2 (3 teachers)	24	16.1	K5
School 3 (1 teacher)	15	10.1	K5
School 4 (1 teacher)	12	8.1	K5
School 5 (1 teacher)	15	10.1	K5
School 6 (controls)	24	16.1	K5
Total	149	100.0	

<sup>a</sup> At School 1, 29 children were tested but 14 were in a control group; thus, only 1 teacher is listed in this column

## Appendix E

### Scores for Experimental and Control Group on Child Measures

**Table 2**

*Descriptive Statistics on Child Measures (N = 29)*

	Group	Time 1			Time 2		
		N	Mean	SD	N	Mean	SD
Story Comprehension (ENNI Questions)	Control	14	34.29	6.71	14	37.86	6.64
	Exp	13	28.08	8.36	13	38.54	8.21
Story Production (ENNI Story Grammar Total)	Control	14	14.29	4.63	14	19.71	2.50
	Exp	12	13.67	5.91	12	16.67	4.27
Story Length (ENNI T-Units)	Control	14	12.07	6.59	14	13.71	2.76
	Exp	13	13.46	2.85	13	14.46	4.39
Personal Story Production with Prompt (TPG)	Control	11	10.27	4.94	11	12.55	6.55
	Exp	12	9.42	5.18	12	10.42	5.38
Letter Recognition	Control	14	2.50	2.28	14	3.14	2.91
	Exp	15	2.80	2.83	15	2.53	3.38
Letter Naming	Control	14	2.21	2.86	14	2.43	3.30
	Exp	15	1.67	2.94	15	2.00	3.25
Name Writing	Control	14	7.50	1.56	14	8.14	1.03
	Exp	15	6.93	1.62	15	7.80	1.57

Note. EXP (Experimental) = Children participating in story dictation and acting. Ns are uneven due to children being present for and able to complete some tasks but not others at one or both time points.

## Appendix F

### Sample Dictations from Children in the Experimental Group

As shown in the examples below, some stories the children were realistic (stories 1 and 2), while others were more fantastic or drawn from popular culture (stories 3 and 4, respectively).

L'autre fois, je suis allé au parc avec mes cousines. Après j'ai monté dans les modules dans le parc, après j'ai glissé sur la glissade. Et en attendant, elles se balançaient sur les balançoires. Après je suis tombé par terre. Après j'ai saigné un peu de la main. Après je suis allé voir maman et elle m'a mis un plâtrer, Puis après je suis retourné au parc.

Il y avait un raton-laveur pendant que papa, moi, et mes frères étions partis chercher du bois. Le raton avait mangé des ailes de poulet. On est retournés au camping et la glacière était ouverte avec des traces de pattes et le raton était caché dans la glacière. Le raton-laveur avait tout détruit. Ma famille et moi sommes entrés dans la tente et il y avait des traces partout.

Il y avait une licorne avec un arc-en-ciel et elle était perdue. Elle retrouvait son chemin car elle était perdue dans la forêt. Elle retrouvait ses amis pandas. Et il commençait à pleuvoir. Puis la licorne a pris un parapluie avec sa patte. Et elle avait retrouvé ses parents.

Le camion de poubelle ramassait Mario et Luigi. Il va les porter à la décharge. Le camion de poubelle ramassait les sacs poubelle et allait les porter à la décharge. Avec son pneu, il a écrasé Bowser. Mario-gang et Luigi sont restés dans la décharge. Le camion est brisé et le superhéros a sauvé Luigi.

## Appendix G

### Language and Emergent Literacy Skills for 149 Children Observed at Pretest

#### Comparison by Age

The pretest data for the 120 children from whom we were unable to collect posttest data (CPE  $n = 30$ ; K5  $n = 90$ ) and the 29 children from the K4 group are presented below. The youngest children were, as expected, in the CPE group ( $M_{age} = 53.47$  months,  $SD = 3.94$ ), followed by children in K4 ( $M_{age} = 59.85$  months,  $SD = 4.29$ ), and K5 ( $M_{age} = 67.34$  mos.  $SD = 3.71$ ),  $p < .001$  for all comparisons.

**Table 3**

Scores on Child Measures at Pretest, by Group

	CPE ( $n = 30$ ) <i>M (SD)</i>	K4 ( $n = 29$ ) <i>M (SD)</i>	K5 ( $n = 90$ ) <i>M (SD)</i>	statistical comparison
EVIP Raw Score	49.8 (23.16)	--	71.44 (18.03)	CPE < K5, $p = .002$
ENNI Production	15.97 (7.07) <sup>a</sup>	14.07 (5.08) <sup>b</sup>	20.01 (4.81) <sup>c</sup>	CPE = K4; both < K5, $p < .001$
Letter Recognition	4.27 (3.52)	2.66 (2.54)	5.22 (3.20) <sup>c</sup>	No sig. differences
Letter Naming	3.47 (3.34)	1.93 (2.87)	4.79 (3.49) <sup>c</sup>	CPE = K4; both < K5, $p < .05$
Name Writing	5.9 (2.99)	7.21 (1.59)	8.6 (.72)	CPE < K4, both < K5, $p < .001$

<sup>a</sup>  $n = 29$ ; <sup>b</sup>  $n = 27$ ; <sup>c</sup>  $n = 89$  as not all children completed every task.

K4 did not complete the EVIP as we dropped it to add other tasks.

As the table shows, while the CPE group appeared to score higher on the ENNI and letter tasks than the K4 group, their scores were more variable, and the mean differences were not statistically significant (see final column). In line with our expectations, (a) the K4 scored significantly higher on name writing than the CPE group; (b) the K5 group scored significantly

higher than both the CPE and K4 groups on the name writing tasks, ENNI production task, and letter naming; (c) the K5 group scored higher than the CPE group on the Échelle de vocabulaire en images Peabody (EVIP), a receptive vocabulary test we eliminated for K4 to add other tasks. Finally, since the K5 children had originally been assigned to the experimental group, we were able to examine their story dictations using the same scoring system we had used for the TPG (p. 9). We noticed fluctuations in scores over time and no improvements when comparing the children's first and last dictations. However, when we examined the children's ENNI scores in relationship to their first and last story dictations, the correlations were significant: for the first dictation,  $r(63) = .440, p < .001$  and for the last,  $r(63) = .288, p = .022$ .

### **Comparison by Language Exposure**

We next compared the children learning French as a first language versus those learning French as a second/additional language for a subset of the children: those attending the CPE and a subgroup of children in the K5 group, attending the same school (the predominance of French-speaking children in the remaining schools did not allow for a comparison). For the children at the CPE, 26 parents provided information about their child's language exposure and languages spoken in response to a questionnaire. Six of the 26 children spoke one or more languages other than French as a first language and were currently bi- or multilingual. When we compared them to the 20 children acquiring French as a first language, they had significantly lower raw scores only on the EVIP, according to an independent samples t-test  $t(24) = 4.11, p < .001$ .

The finding for the K5 group, in which five children spoke a language other than French as a first language, was the same. When the K5 results were further examined based on language spoken now (French only vs. French plus one or more other languages), children in the bi- or multilingual group (n = 10) again had (a) significantly lower scores on the EVIP  $t(22) = 2.63,$

$p = .015$  and (b) a slightly lower mean score on the name writing task compared to the monolingual French group ( $n = 14$ ):  $t(22) = 3.83$ ,  $p = .001$ . These results need to be interpreted with caution, given the small numbers of children in the bilingual/multilingual groups; however, we plan to compare the EVIP scores to those of a larger group of multilingual kindergarteners studied by co-investigator MacLeod in Montreal schools (in a different project).

## Appendix H

### Checklist for Review of Story Dictation and Story Enactment with Teachers

Teacher behaviour and statements	✓ if observed
<b>During story dictation</b>	
draws attention to print as writes child's name	
begins with neutral statement, e.g., "Je t'écoute."	
looks at child or shows signs of being engaged	
faithfully records child's words (i.e., writes verbatim to the best of ability)	
echoes child's words while writing	
asks for clarification if speech is unintelligible or is unable to follow child	
ends with neutral statement, e.g., "Merci Eva" rather than evaluation	
identifies characters in story to prepare for story acting	
<b>During story enactments</b>	
calls author to side before reading story	
reads story aloud verbatim	
reads with enthusiasm	
reads story again slowly, line-by-line, attributing roles and allowing children to act out the roles (see p. 14 for other contributions)	
if the story contains dialogue, asks group to recite in unison (rather than giving a speaking role to a single child)	
ends by inviting applause or other ritual ending	