# Master Capstone Project

# Improving Reading Fluency of a Group of Bilingual Students in First Grade A Target Action Research Study

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#### **Abstract**

This study is a target action research study. The participants of this study are three bilingual students in a first-grade classroom. A gap in the words per minute count was observed in these students compared to that of their peers. Reading fluency tests were conducted as preassessments each Monday and the correct word read per minute (WPM) was recorded.

Instructional intervention such as parental involvement and use of visuals to teach vocabulary were implemented. The effects of the intervention were evaluated across participant's each week for four weeks. Each Friday, reading tests were conducted as post-assessments and progress was determined based on the increase in correct words per minute count (CWPM) and students' ease in initiating responses for three comprehension questions. This study found that the interventions played a significant role in enhancing reading fluency demonstrated by an increase in CWPM each week for all four weeks in all three students.

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## Introduction

Several reports and articles state the existence of a reading crisis in the United States. It is a growing problem in every state. According to the Literacy Network, 67% of 4th-graders read below grade level (NAEP, 2022 Reading Assessment).

The facts are nothing different for Washington state. According to Nation's Report Card, also known as the National Assessment of Educational Progress (NAEP), reading performance by students in grades 4 and 8 in the 2022 assessments declined significantly compared to the scores from 2019. While the fourth graders saw a drop of 3 points, the eighth graders saw a 5-point drop. A Growing reading crisis is evident because when students lack literacy skills, it can lead to other negative consequences such as school absences, dropout, lack of awareness, unemployment, and adjudication (Sprague & Walker, 2000; Morgan et al., 2008). Several studies have shown that students who are poor readers in early elementary are likely to struggle in middle school. Furthermore, 75% of children with reading problems in the third grade will continue struggling with reading in the ninth grade (Morgan et al., 2000; Lyon, 1995). Many researchers have shown that skilled reading is a determining factor for long-term success.

These are some of the many reasons that made me wonder about the variables influencing students' reading fluency. Other thoughts included the various interventions useful to bridge the gap in the bilingual students I have been observing. Some variables explored for this study were the impact of time of the day on students' participation/responsiveness to instruction and assessment performance and parental involvement. Another factor that inspired me to pursue this study is my challenges as a child in learning other languages.

#### **Problem Statement**

In a first-grade classroom of a private school where students are doing second-grade curriculum, a group of bilingual students is scoring within the average reading fluency rates for their age. However, a big difference in their reading fluency scores has been observed compared to their peers' scores. In addition, a gap in decoding skills has been observed. While their peers decode words easily, these students struggle to decode the same words. A struggle in responding to comprehension questions post-reading was also observed. The purpose of this study was to support these students by selecting strategies, implementing them and monitoring students' progress.

#### **Ouestion**

Reading literature about the influence of the time of the day on students' performance on tests and their participation levels during instruction brought up another wondering.

Could the nature of the activity that students are involved in right before instruction time or reading tests influence their performance or participation levels?

Does student engagement and motivation levels in activities right before instruction time and tests impact their performance and participation?

The guiding questions for this study were:

- Can students' background and parent involvement be contributing factors?
- Does the time of the day influence students' retention or responsiveness to learning academic words and their performance in reading assessments?

 What are some effective strategies that can help improve their reading fluency to help bridge the gap?

#### Rationale

Reading fluency is a foundational skill in reading. With the complexity of texts increasing with each grade level and with students having to take several tests such as the Smarter Balance Assessments (SBA), Washington Comprehensive Assessment of Science (WCAS), and NAEP, analyzing variables that can positively impact students' reading fluency and providing early intervention can facilitate comprehension and better prepare students for these tests. This study addresses strengthening reading skills with parental involvement and vocabulary instruction as interventions to boost the word-per-minute count and comprehension. The reading standard that aligns with this study is:

Grade 2 RF2.4: Read with sufficient accuracy and fluency to support comprehension.

#### **Literature Review**

This literature review discusses the variables that influence the reading fluency of multilingual learners. To understand how best to help students gain fluency, the following variables such as parental involvement and the time of the day were analyzed for a preponderance of the evidence.

#### **Parental Involvement**

Parental intervention and students' reading fluency achievements have shown to have a positive co-relation. In a five-year study, 168 children from middle and upper-middle-class families participated in a home literacy program. Children were exposed to books at home

including parent reading to a child as well as subsequent receptive language skills and reading achievement were examined. Early literacy skills directly predicted word reading at the end of grade 1 and comprehension at the end of grade 3. In addition, parent involvement in teaching children about reading and writing words was directly correlated with developing early literacy skills. (Sénéchal and LeFevre, 2002; Sénéchal, M., 2003). Larson & Ogren (2016) also examined the positive impacts of parent involvement and fluency scores. In their study, after parents gave consent, twelve first-grade students and their parents were chosen to participate in the six-week study. Throughout six weeks, parents assisted students at home in practicing repeated reading and completing sight, fluency, and nonsense word activities. Students were also tested twice a week on fluency readings in the classroom. The activity was assessed by word-per-minute graphing. Data was collected from parent surveys and weekly pre- and post-fluency assessments on home literacy activities. At the end of the study, it was found that 42% of students increased their fluency score by 100% or higher, 42% increased their fluency score by 50%, and 16% improved by at least 10%. Hindin and Steiner, L. (2022) designed a home reading project to increase students' reading fluency. The participants of their research were five second-grade struggling readers and their parents. It was observed that students involved in multiple readings with parents and an increase in the frequency of reading with parents per week improved their overall reading rate, accuracy, and fluency.

## **Parent Training**

Training parents to use intervention strategies has been shown to be effective in facilitating students' reading fluency and an overall positive reading attitude. In a study conducted by Bilgi (2020) 8 participants, 4 parents and 4 children, parents were trained in

increased by parent training and involvement of reading practices at home. In another study by Resetar et. al. (2006), the parents of five-first grade students were trained in the implementation of tutoring procedures. Results of the study showed increased in reading fluency for four of the five students. Case-to-case differences were observed in children reading with Parent's support. Children become independent upon repeated readings with parents. Also, they showed increased motivation to read with accuracy and demonstrated more words per minute.

## Time of the day

In addition to parental involvement in students' reading achievement, the role of the time of the day on students' performance and participation was investigated for this study. Quite a few studies have been conducted to determine the effect of the time of the day on students' participation and learning. For example, Davis (1987) examined the time-of-day impact on the instruction of 80 eighth-grade students in mathematics. In this study, students were assigned to either first-period mathematics (8:10 a.m.-9:10 a.m.) or last-period for the whole school year. The same mathematics instructor taught both of these mathematics classes. The Comprehensive Basic Skills Test was used as a pretest at the beginning of the year and again as a post-test nine months later. Davis found no apparent difference in achievement between morning and afternoon math groups. Another study by Millar et al., (1980) showed that morning learning is associated with higher instant recall than afternoon or evening learning. In this study, Millar et al. formed three groups of students(n=18). Each group performed a task at different times of the day. The efficiency of the given task was then measured based on each group's accuracy, speed, and retention capacity. Barron, Henderson, and Spurgeon (1994) have reported how below-gradelevel students master reading skills at different times of the day. In their study, 128

underachieving students from grades 1 through 4 participated in the reading program. These students were randomly assigned to control and experimental groups. The teachers conducted reading instruction with each control group in the morning and the other experimental group in the afternoon. All groups took pre-and post-tests. The researchers found an overall increase in the mean reading scores for below-grade-level students who received instruction in the afternoon compared to those of a similar group who received instruction in the morning. Although many researchers found that time of day plays a significant part in student achievement, not all students performed best at one time of day. Alternatively, when students were taught at times that matched their learning styles and needs, they scored significantly higher on quizzes.

## **Theory of Change**

The theory of change for this study is that some students may need additional support to develop strong literacy skills. If there is parental involvement and teacher intervention from early elementary years, students will be able to demonstrate grade-level reading fluency and comprehension at the minimum.

## Methodology

This target action research focused on improving students' reading fluency test scores.

The participants were three seven-year-old bilingual students. The first step was having informal conversations with these students and their parents to learn more about their backgrounds and current reading routine to check for parental involvement. Next, reading literature about factors influencing reading fluency and effective strategies to help improve students' reading fluency was pursued. Data from past informal reading assessments conducted was collected. Students' current reading fluency levels were observed. This observation was recorded and later used for

diagnosis and plan of action. The action plan includes selecting appropriate strategies and implementing them for a set number of days. Word-per-minute fluency tests were conducted at different intervals to check for progress. Progress was indicated by an increase in the number of words read per minute (WPM) with fewer ERRORS and correct word per minute (CWPM) during comprehension of the text.

#### Context

For the first two weeks the three students were pulled out for instruction in the evening at 2:30 pm right after their math lesson. The duration of the instruction was 25 to 30 minutes. On the following next two weeks instruction was given in the morning for the same duration right after their morning work. Students read the words and saw the visuals for each word as a group. They shared what they already knew about the word and made sentences using the words. Then they practiced reading the words individually.

#### **Interventions**

The intervention involved selecting 15 words from the new passage each week for four weeks based on observations made during students' pre-assessment and using visuals/pictures to introduce the selected words. The words were selected for one of the following reasons:

- 1. Students struggled to read them, or
- 2. Students made ERRORS while reading them (singular for plural and vice versa example: helpers read as helper or pronunciation ERRORS), or
- 3. Students needed to learn what the word meant.

## Intervention at home

The list of 15 words was sent to parents by Monday evening each week after the preassessments. Parents were instructed to spend 5 mins daily with their child for a reading activity in which their child must read the 15 words from the list for 5 minutes. At the end of the 5minute reading activity, parents were requested to ask their child to pick one favorite word from the list and use it in a sentence.

#### Intervention at school

The first step for the intervention during school hours was to activate prior knowledge. Students were asked if the words from the list were familiar to them, and then they were asked to demonstrate their understanding of the words by using them in a sentence. Next, visuals for each word were shown with modeling of how to use them in sentences. The intervention was also slightly modified based on the passage. For example: For the passages 'Giving Thanks Twice', which spoke about Japanese Labor Day Thanksgiving and how it was similar and different from American Thanksgiving, and 'How the Fox brought Fire to the People', a Native American folktale, videos were available on YouTube and watching the videos helped them make stronger connections with the words. However, the intervention did not involve videos for the other two passages, 'My first Skate' and 'Lost Kitten', which touched on a generic theme.

The intervention also included a game activity where students selected a word, drew a picture, and asked their peers to guess the word they picked. Games were introduced to increase student engagement and to cater to students' interests.

The time frame for the intervention was four weeks, with each session lasting from 25 to 30 mins. During the first two weeks, I instructed students at 2:30 in the evening and conducted

the post-assessment on Friday by 11 am. However, on the third and fourth weeks, I changed the instruction timings to morning 11 am and conducted the post-assessments at 2:30 pm.

## **Data Gathering Instruments/Assessments**

In this study, the following statistical parameters were used:

- 1). ANOVA analysis to compare mean scores between students (A, B & C) each week for four weeks (weeks 1, 2, 3 & 4). This comparison was used for analyzing data acquired from WPM, ERRORS, and CWPM during parental involvement.
- 2). T-test to compare mean scores from the first two weeks to the next two weeks for each student to determine any significant change in the parameters (WPM, ERRORS, CWPM) from the time of the study.

## Assessment #1: Pre- and post-test

The pre- and post-assessments measured the students' reading proficiency before and after parental intervention and instruction. Pre-assessments were conducted on Mondays and each student read the same passage on Fridays for post-assessments. For the first two weeks of the 4-week study, the post-assessments were conducted in the morning between 10:30 am and 11 am, and in the last two weeks of the study, the post-assessments were conducted between 2:30 pm and 3 pm. (see Appendix A) (Education, 2012)

#### Assessment #2: Observation Running Records

Observations were made during pre and post-tests and instruction. In addition, notes about students' attitudes toward learning, engagement levels, interests, and their needs were also made during instruction and assessments (see Appendix B)

## Assessment #3: Study material used for Pre and Post assessments.

Two copies of the reading fluency passages from Wonders Grade 2 'Your Turn to Practice Book' were used to conduct the pre-and post-assessments- one copy for the student and one for the observer. While students read the passages aloud, words read incorrectly, and the words that the student missed reading were accounted as ERRORS/miscues. Notes were made, and WP, ERRORS, and CWPM were recorded (see Appendix B)

#### **Action Research Cycles**

After the commencement of the study, the instruction was slightly modified based on student interests and engagement. During the first week of the study, it was observed that the participants enjoyed visual learning. Therefore, videos were used instead of just visuals for the passages 'Giving Thanks Two Times 'and 'Coyote Brings Fire.' Watching the video of this Native American folktale, 'Coyote Brings Fire,' made it easier for the students to visualize the mythical Fire Beings, which was harder to imagine with pictures alone.

Higher retention of information was observed, and students could initiate responses to the comprehension questions independently. From the third week of the study, short games were introduced. It was observed that when students were responsible for picking a word of their choice and checking their peers' understanding and spelling, they ensured they learned the word very well.

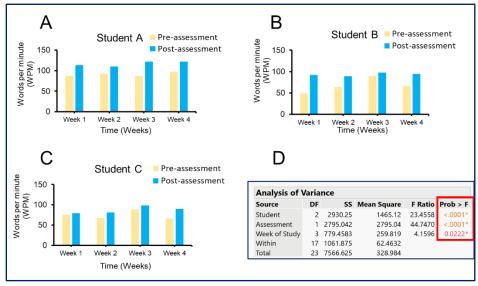
#### **Results**

The data presented in this section is the outcome of two key interventions 1. Parental involvement and 2. Time of the day for instruction and assessment. The following quantitative parameters (WPM, ERRORS and CWPM) were recorded.

## 1. Parental Intervention Substantially Improved Word Per Minute in All Students

All three students have shown significant improvement as assessed using the words read per minute (WPM) parameter in post-assessment compared to pre-assessment every week for four-week study (Figure 1. A-C). On Monday evenings of the 4-week study, a reading fluency test was conducted with each student separately. While students read the passage, their miscues and struggles with certain words were recorded. A list of words was made and shared with the parents to practice with their child. All students (Figure 1 A-C, Bar graphs) show substantial improvement in WPM. One-way ANOVA (Figure.1D, red square) also showed a significant (p<0.05) comparison between individual students' performance, between pre- and post-assessment of each student as well as between all four weeks of the study.

Figure 1. Parental Intervention Has Improved the Reading Ability as Measured by Word Per Minute

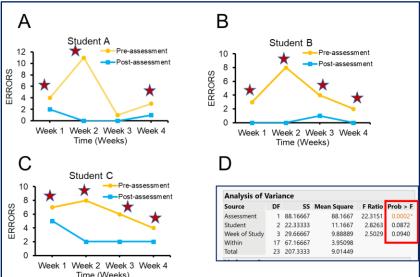


## 2. Parental Intervention Minimized the ERRORS in all Students.

In line with the WPM assessment, the ERRORS/miscues during pre-assessment were recorded. The ERRORS/miscues dropped considerably in the post-assessments in all four weeks for all three students (Figure 2, Line graphs on the left). Statistical analysis shows that parental intervention played a significant role (p<0.05) in minimizing the ERRORS/miscues during postassessment (highlighted in red rectangle, one way ANOVA). No significant difference was observed between the students and between the weeks, primarily because error rates are meager in the pre-assessment. In certain weeks there were no ERRORS recorded for some students (Figure 2, A & B). Furthermore, the t-tests performed each week for four weeks in all three students show a significant drop in error rates, as represented by red asterisks.

В Α Student A Student B Pre-assessment

**Figure 2. Parental Intervention Reduced Error Rates** 



## 3. Parental Intervention Significantly Improved CWPM in All Students

Increase in WPM and reduced ERRORS improved the overall correct words per minute count (CPWM) for all three students each week of the four-week study making the positive

impacts of parental involvement more evident. One-way ANOVA analysis indicates a significant improvement in CWPM in all three students in post-assessment conducted for four weeks (p<0.05, Bar graphs, Figure 3D). The CWPM data is in harmony with the other two parameters (increase in WPM and low ERRORS), indicating that parental involvement enhances students' performance.

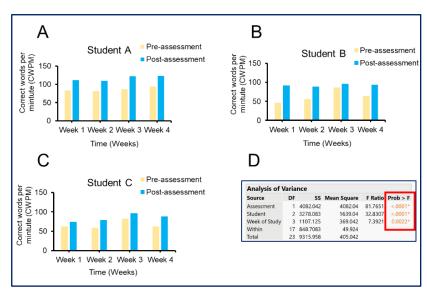


Figure 3. Parental Intervention Significantly Improved CWPM

## Time of the Day for Instruction and Pre- and Post-Assessment

The instruction time for the first two weeks of the 4-week study was at 2:30 pm evenings, and post-assessments on Fridays were conducted in the morning between 10:30 and 11 am. The instruction time for the last two weeks of the 4-week study was morning at 10:30 am, and post-assessments on Fridays were conducted in the evenings between 3 and 3:30 pm (see Appendix A). The study was conducted on three students and assessed for three parameters (WPM, ERRORS, and CWPM).

The time of the day study was conducted with three students and assessed for three parameter scores (WPM, ERRORS and CWPM). The data analyzed was derived from average final scores from first two weeks of each student compared to the average final scores of the next weeks.

When instruction was provided for all three students from Monday to Thursday at 2:30 pm and post-assessment was conducted on Friday morning at 10:30 am, a substantial (p<0.05) improvement was observed in WPM(Student A: 90.75 > 116.75; Student B: 67.75 > 93 and Student C: 74 > 87). To support the above observation, ERROR rates in all three students decreased (p<0.05) (Student A: 4.75 < 0.75; Student B: 4.25 < 0.25 & Student C: 6.25 < 2.75). This was further validated by improvement (p<0.05) in CWPM scores (Student A: 86 > 116.5; Student B: 63 > 92.75 & Student C: 66.25 > 84.25). The data were analyzed using paired t-tests to compare the mean differences in WPM for each student.

#### **Conclusions**

This action research was performed to determine the role of parent involvement in students' reading fluency and the influence of time of the day on students' performance in reading assessments as well as their participation/responsiveness towards instruction provided. The data presented in this study shows that there is significant improvement in student(s) performance in every week as measured by word per minute, ERRORS, and correct word per minute. The improvement in language fluency in all students was enhanced by parental intervention followed by the time and day of the assessment performed. Continuation of effective strategies like long-term, timely instructional assessment with parental involvement will help children learn challenging vocabulary in reading comprehension, by minimize ERRORS and help in pronunciation of correct words to understand the passage.

#### Limitations

One potential limitation was consistent parent involvement. Parents of one of the participants was inconsistent with the 5 minutes per day reading activity and was compensating the lost time by increasing the time on other days. Parent involvement was an important aspect as it may affect reading performance. With constant communication with parents of the participants, parent involvement cannot be entirely out of scope of this study, but it was not a factor that could be controlled. Absences of participants were also another limiting variable which was outside the scope of this study.

#### Recommendations

A long-term study with more students could be pursued to support the current findings in early elementary school children to determine the role of time of the day on reading fluency.

#### References

- Bilgi, A. D. (2020). Evaluating the effect of parent reading interventions on improving reading fluency of students with reading difficulties. *Behavioral Interventions*, *35*(2), 217–233. https://doi.org/10.1002/bin.1708
- Barron, B., Henderson, M., & Spurgeon, R. (1994, Spring). Effects of time-of-day instruction on reading achievement of below grade readers. *Reading Improvement*, 31(1), 56–60.
- Education, M. (2012). Reading Wonders, Grade 2, Your Turn Practice Book Grade 2. McGraw-Hill Education.
- Hindin, A., & Steiner, L. (2022). Creating opportunities to read and build fluency at home.
  Journal of Early Childhood Literacy, 146879842110510.
  https://doi.org/10.1177/14687984211051083
- Larson, M. (n.d.). The Relationship Between Parental Involvement and Increasing First Grade

  Fluency Scores. SOPHIA. https://sophia.stkate.edu/maed/194
- Lyon, G. (1995). Research Initiatives in Learning Disabilities: Contributions from Scientists

  Supported by the National Institute of Child Health and Human Development. *Journal of Child Neurology*. https://doi.org/10.1177/08830738950100s126
- Millar, K., Styles, B. T., & Wastell, D. (1980). Time of day and retrieval from long-term memory. *British Journal of Psychology*. https://doi.org/10.1111/j.2044-8295.1980.tb01755.x
- Morgan, P. S., Farkas, G., Tufiş, P. A., & Sperling, R. A. (2008). Are Reading and Behavior Problems Risk Factors for Each Other? *Journal of Learning Disabilities*, *41*(5), 417–436. https://doi.org/10.1177/0022219408321123

- Morrow, L. M., Kuhn, M. R., & Schwanenflugel, P. J. (2006). The Family Fluency Program. *The Reading Teacher*. https://doi.org/10.1598/rt.60.4.2
- NAEP State Profiles. (n.d.).
  - https://www.nationsreportcard.gov/profiles/stateprofile/overview/WA?chort=1&sub=MA T&st=MN&year=2019R3&sfj=NP
- Resetar, J. L., Noell, G. H., & Pellegrin, A. (2006). Teaching parents to use research-supported systematic strategies to tutor their children in reading. *School Psychology Quarterly*. https://doi.org/10.1521/scpq.2006.21.3.241
- Sénéchal, M., & LeFevre, J. (2002). Parental Involvement in the Development of Children's Reading Skill: A Five-Year Longitudinal Study. *Child Development*, 73(2), 445–460. https://doi.org/10.1111/1467-8624.00417
- Sénéchal, M., & Young, L. C. (2008a). The Effect of Family Literacy Interventions on Children's Acquisition of Reading From Kindergarten to Grade 3: A Meta-Analytic Review. *Review of Educational Research*, 78(4), 880–907. https://doi.org/10.3102/0034654308320319
- Sénéchal, M., & Young, L. C. (2008b). The Effect of Family Literacy Interventions on Children's Acquisition of Reading From Kindergarten to Grade 3: A Meta-Analytic Review. Review of Educational Research, 78(4), 880–907. https://doi.org/10.3102/0034654308320319
- Sprague, J. R., & Walker, H. M. (2000). Early Identification and Intervention for Youth with Antisocial and Violent Behavior. *Exceptional Children*, 66(3), 367–379. https://doi.org/10.1177/001440290006600307

Yumus, M., & Turan, F. (2021). The impact of parent training intervention in early years:

language and literacy development. International Journal of Early Years Education,

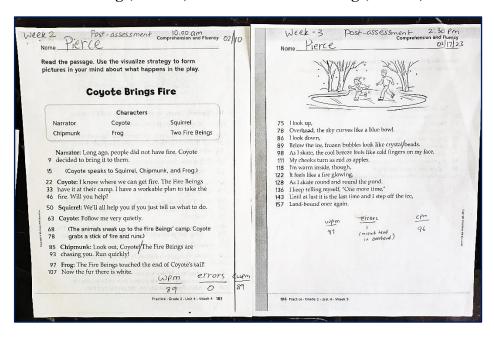
30(4), 697–713. https://doi.org/10.1080/09669760.2021.1933918

## Appendix A

Images showing Time of the day for post-assessments.

## Morning (Week 2)

## Evening (Week 3)



## Appendix B

## **Observation Running Record**

Tuesday

Time - 2:30 pm

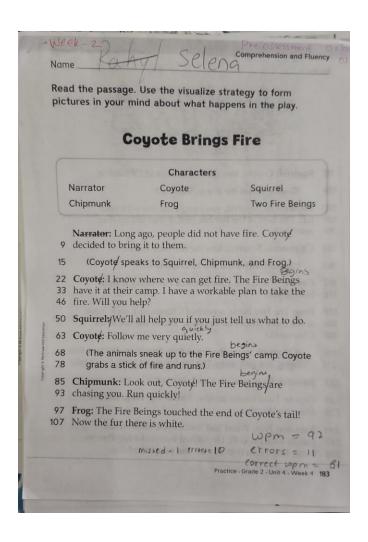
Instruction

Selena looked very entited. She expressed a couple of tones that she loves to be pulled out for instruction.

She was very curious about the Five Beight her visualize the Five Beight helped her visualize the Five Beings. The video also helped her remember the segmence of the story. Selena could also initiale responses farthe comprehensic questions on her own.

## Appendix C

## **Example of Study Material used to conduct Pre and Post assessments.**



## Acknowledgements

I'm grateful for my mentor Corll Miller Morrissey's guidance, support from my husband, friends, peers, and my parents' blessings. I also would like to thank my high school teacher Mr. Rajendra Gangalum, who took time out of his busy schedule and patiently explained how to analyze and record data and many other aspects of this study. If it weren't for his advice and mentorship, my research paper would have been overwhelming. Many more people have contributed to this accomplishment in ways that I didn't even think possible, and while I cannot list all their names, I'm forever grateful for their presence in my life and this work.