Action Research Project: Fluency vs. Comprehension

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Abstract

The action-research presented in this paper seeks the answer to the following research question: do targeted fluency interventions positively impact comprehension? This research included a test group of ten sixth grade Special Education students and a control group of ten sixth grade General Education students. Both the test and control groups participated in the STAR pre and post-test which measures their individual instructional reading levels. The results of the pre-test revealed that many students were not reading at a sixth grade reading level. The test groups' results were used to pair students based on their individual reading levels. The paired students worked together over three weeks to complete The Six Minute Solution targeted fluency intervention. In addition, these pairs received the standard sixth grade curriculum. The control group received only the curriculum. After the three-week time period, both groups took the STAR post-test. Half of the students in the test group increased their instructional reading levels while half remained the same. Not one student in the test group decreased their score. This demonstrates that a relationship does exist between fluency and comprehension. The greatest limitation of this study was the three-week time period for the implementation of the fluency intervention. The results of this study also reveal that both the fluency intervention and pre and post-tests can be administered to any group of students and some growth will be discovered amongst their reading levels.

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Introduction

There is an ongoing investigation taking place in schools across the country to discover the depth of the relationship between reading fluency and reading comprehension. Many times students, especially students with learning disabilities, spend much of their time, energy, and memory on decoding each word individually as they read, that by the time they are finished reading a sentences or passage, they are unable to recall any details of what they have just read. Therrian, Gormley, and Kubina (2006) explain, "reading fluency, the ability to read with speed, accuracy, and proper expression is a critical skill for comprehension" (p. 23). Students who struggle with reading need additional support. In an effort to determine the relationship between reading fluency and reading comprehension students need opportunities to practice reading texts. By doing so, students may be able to improve their fluency speed and accuracy while also improving their reading comprehension.

A problem I face on a regular basis is that my students with learning disabilities are only able to read and comprehend texts that are two to three levels below grade level. Being in 6th grade, this presents quite an issue because I am required to teach 6th grade standards and curriculums using 6th grade level texts. While each of my Special Education students has an Individualized Education Plan that provides accommodations for how to structure tasks for students, there are no supports included for fluency and comprehension. As struggling readers get older, it becomes even more important that they receive the individualized supports necessary to support them as readers. Therefore,

throughout this study, I will be seeking an answer to the question *do targeted fluency interventions positively impact comprehension?*

To assist me in answering this question, I will implement the targeted fluency intervention, The Six Minute Solution created by Gail Adams and Sheron Brown. Through the use of a comprehension pretest, strategies implemented during the testing period of the intervention, and a comprehension posttest, I will be able to gather data that will reveal the growth or lack of growth that may occur amongst my students' comprehension scores. As a result of the targeted interventions I predict that there will be a positive effect and growth with some but not all of the students. However, I do not predict that the growth will be very substantial. My hope is that I will be able to determine if improvement in fluency and accuracy in reading texts will also improve comprehension for my students.

Literature Review

Studies of interventions related to fluency and its effects on comprehension have often been done with elementary students. However, attention has been drawn to the fact that secondary students need interventions as well, if anything, they need interventions for fluency even more. Hawkins, Hale, Sheeley, and Ling (2010) state, "students with reading deficits at the secondary level may take much longer than peers to accurately decode text, resulting in fluency deficits" (p. 59). Along with that, Barth, A., Cirino, P., Denton, C., Fletcher, J., Francis, D., Roberts, G., …Wexler, J. (2011) explain, a focus in reading instruction becomes even more important in the middle and high school grades as the presence of problems in reading continues to grow. Throughout elementary school, if

student with learning disabilities or students with reading deficits have not received the support that they need, each year they fall further and further behind their peers.

In their article, *A synthesis of fluency interventions for secondary struggling readers*, Wexler, J., Vaughn, S., Edmonds, M., & Reutebuch, C., (2008) describe the six stages of learning and the role fluency plays in each. The first stage involves the idea of text and phoneme awareness. The second stage develops the alphabet, followed by the third stage, which is referred to as "unplug from print" which is when students develop fluency (p. 318). During the third stage, students need to have strong decoding abilities. The fourth, fifth, and sixth stage shift from students learning to read to student reading to learn. Bottom line, if students have not developed their decoding and automaticity skills by the time they reach middle school, specifically sixth grade, they are severely behind their peers in terms of reading ability and comprehension of texts (p. 318). Observations made by Graham, Pegg, and Alder (2007) state, "students with learning disabilities often experience 'learned helplessness' and do not implement strategies spontaneously, flexibly, and efficiently, and have poor declarative knowledge related to working memory performance."

Students with poor fluency and decoding skills do not have much room in their memories for comprehension. Therrien, Gormley and Kubina (2006) explain, "dysfluent readers must intently concentrate on each and every word using all of their cognitive resources to decode texts. This leaves virtually no cognitive resources left for comprehension" (p.23). It is important that teachers are able to supply students with tools and strategies that they can use to practice their fluency and grow as readers before they

progress too far into the stages of learning. If they progress without these strategies and tools, studies show that there will be definite gaps for these students.

A fluency strategy mentioned in multiple studies, as well as a strategy that I will be using as a part of my action research plan, is that of repeated reading. According to Therrian et al., (2006), it is believed that repeated reading is an effective intervention strategy for students with and without disabilities because, as stated earlier, in order for students to increase their fluency rates, they need to develop automaticity with the words that they read in order to comprehend texts. Spencer and Manis (2010) explain that as a reader's fluency increases, additional cognitive resources are made available and a reader's comprehension will also increase. Omer Ari's (2011) study *Fluency Interventions for Developmental Readers: Repeated Readings and Wide Reading,* states "repeatedly reading a text or reading a wider amount of text appears to allow students to gain facility in the parsing of words as they read for meaning" (p. 12). When focusing on fluency, it is important that students are exposed to and practice reading texts that are at their instructional reading levels. As students experience multiple readings with a text and make growth, they can progress to higher levels of text to increase their skills.

Repeated reading strategies can be implemented in a variety of ways according to the article, *A synthesis of interventions for secondary struggling readers*. It can be done with a model, meaning that a teacher can model how the text should be read for students, or an audio of the text can be played. It can also be implemented without a model. Without a model, students read the texts independently or with a partner on their same instructional reading level multiple times. The recommended times to read a text during repeated reading is three to four times (Wexler, J., Vaughn, S., Edmonds, M., &

Reutebuch, C., 2008). However, in the article, both methods of repeated reading indicated some increase in the students' fluency and comprehension skills. The studies from this article support my research plan to use the repeated reading strategy with my group of students and the students will participate in the strategy without the use of a fluency model.

Methodology

Population

This action research plan consists of a test group and a control group. The test group is composed of ten Special Education students. Each of the students have an Individualized Education Plan (IEP) and have been tested to be reading at least two to three levels below grade level. The test group consists of three girls and seven boys. The teacher of the test group is a Special Education teacher who has three years of teaching experience. The control group consists of ten general education students who have been tested and found to be reading two to three levels below grade level as well. The control group consists of five girls and five boys. The teacher the test group does not teach the control group. The teacher of the control group is a general education teacher who has eight years teaching experience.

A test group of Special Education students and a control group of general education students were chosen due to the individuality of the pre and post-test and interventions used. Throughout the study, I am looking to compare individual comprehension and fluency scores of my test and control groups, not the 6th grade as a whole. That is why Special Education students that I teach and the General Education students from another class were chosen. Not all students in either group are

instructionally reading on grade level but all receive the same grade level standard curriculum. Due to the individuality of the pre-test, post-test, and fluency intervention used in this action research, the results will not be affected based on the students being either Special Education or General Education students. I am looking to measure individual fluency and comprehension growth.

Implementation

A combination of a correlational study and a quasiexperimental design were used to collect data in this study. Both the test group and the control group took the STAR reading assessment as a pre-test to gain their comprehension scores. The STAR reading assessment is a computer-based program that assesses students through the use of reading passages and questions in order to discover students' instructional reading levels. In order to gain an accurate discovery of the instructional scores, the STAR will adjust its textual difficulty based on the answers that students' provide to the comprehension questions. If students' are answering the questions correctly, the text difficulty may increase, but if students are answering the test questions incorrectly, the text level will decrease. The data collected based on the instructional reading levels allowed for the control group to be chosen because their levels matched those of the test group.

The results of the STAR assessment enabled the students in the test group to be paired based on their instructional reading levels in preparation for The Six Minute Solution fluency intervention. In order to discover if a relationship exists between fluency and comprehension, only the test group will receive the fluency intervention in addition to the standard English curriculum. The Six Minute Solution allowed students and their partners to interact with texts at their instructional reading level while the

English curriculum incorporates 6th grade level texts. The control group did not receive the fluency intervention, only the standard 6th grade English curriculum.

After the STAR pre-test, students in my test group were paired according to their instructional reading levels. The Six Minute Solution required that students work with a partner who is on the same instructional reading level as them. Prior to beginning the intervention, I met with my test group alone in my classroom and explained how the intervention will work. I used a Power point presentation to introduce and explain what fluency and comprehension were and the role that they play in reading texts. The presentation explained how students were expected to interact with their partners when they were reading, such as, being respectful and how to correct each other's errors. The chart below shows the pairs that were created as a result of the STAR pre-test and their instructional reading levels.

Partner 1	Instructional Reading Level	Partner 2	Instructional Reading Level
Student B	3.1	**Student A**	2.0
Student D	4.1	**Student C**	4.0
Student E	4.4	**Student F**	4.4
Student H	5.0	**Student G**	4.9
Student J	6.3	**Student I**	6.2

Students were introduced to their partners, practiced retrieving materials, setting timers, recording their partner's data, and cleaning up materials. When students were seated with their partner, they were assigned which partner was partner 1 and which was partner 2. These roles were to remain constant throughout the entire implementation

process. Partner 1 and partner 2 were decided based on which partner was the stronger reader. For example, if STAR scores revealed that one partner was reading at a 4.3 instructional level and another partner was reading at a 4.2 instructional level, the 4.3 student was partner 1. I felt that it was essential that the students practiced the intervention first because it needs to be done in a very systematic manner during the implementation stage.

The breakdown of the Six Minute Solution is as follows:

- 1 min gather materials
- 1 min partner 1 reads
- 1 min partner 2 records partner 1 data
- 1 partner 2 reads
- 1 min partner 1 records partner 2 data
- 1 min clean up materials.

The two practice days proved to be beneficial to the students and myself. I was easily able to identify which students needed further clarification of the steps and I was able to teach the students how to multi-task.

The actual implementation of The Six Minute Solution took place in my co-teacher's classroom with the rest of the class. Each day during the implementation process, the ten students in the test group were expected to enter the classroom and report to the area of the room that had been designated for The Six Minute Solution. The area consisted of 2 tables, with chairs set up for the ten students. On one of the tables was a file box that contained all of the materials that the students needed to gather prior to beginning the six-minute process.

The materials needed for the Six Minute Solution are listed below:

- folders containing two passages in plastic sleeves, two graphs, and two correct word per minute charts
- markers
- marker erasers
- timers

Each group of partners had a folder that was a different color for easy distinction and the students selected the marker that matched their color folder. For example, red folders used a red marker; blue folders used a blue marker. The use of color-coding made organization easier for students, allowed them to quickly retrieve their materials, and enabled consistency to play a role in the implementation process.

Students and their partners read the same passage together for one week at a time. This supports the strategy of repeated reading, which has been recommended by research as a beneficial strategy when targeting fluency. At the end of the week, I collected their data collected and decisions were made as to whether or not the pairs should remain with the same-leveled text or based on their data if they can progress to the next grade level text. Students must record a specific amount of correct words read in order to proceed to the next grade level text. Mondays' six minutes were used for previewing the passages for the week. On Fridays, after students completed the six-minute process, turned in materials from the week and selected a new passage for the following week.

Below is a table from The Six Minute Solution created by Jan Hasbrouck and Gerald Tindal (2004), which can be used to draw conclusions and make decisions about oral reading fluency in students. The Six-Minute Solution explains, "teachers can use the

table to set long-term fluency goals for their struggling readers" (Adams & Brown, 2007).

Grade	Percentile	CWPM
3	90	128
	75	99
	50	**71**
	25	44
	10	21
4	90	145
	75	119
	50	**94**
	25	68
	10	45
5	90	166
	75	139
	50	**110**
	25	85
	10	61
6	90	117
	75	153
	50	**127**
	25	98
	10	68
7	90	180
	75	156
	50	**128**
	25	102
	10	79

The percentiles and correct words per minute (CWPM) in bold are the averages for each grade level. I focused on the CWPM averages and ranges for each grade level to help me analyze my students' data and make decisions about how and when my students moved throughout a grade level or to a higher grade leveled passage.

The process of the fluency intervention continued for three weeks. After the three-week implementation ended, students in both the test group and the control group took the STAR assessment again as a post-test. The post-test was used as a comparison of

comprehension scores between the two groups. It was seeking to discover if a relationship truly did exist between reading fluency and reading comprehension. Their scores on the post-test helped to answer the research question of *do targeted fluency interventions positively impact comprehension.*

Rational for Qualitative vs. Quantitative Research

This action research plan called for a combination of both qualitative and quantitative research. Quantitative research was needed because I was seeking to discover a correlation or relationship between reading fluency and reading comprehension. In order to effectively measure these variables, I needed to collect quantitative data in the form of the STAR pre and post-test and the Six Minute Solution fluency correct words per minute. The results of the STAR pre-test were used to match students with a partner at their instructional reading level. The correct words per minute data was recorded and graphed by the students in order to keep track of their progress. The STAR post-test allowed for the pre-test data and the correct words per minute data to be compared to assess if a correlation did exist between reading fluency and reading comprehension.

Qualitative research was used in the form of teacher observations. While students were going through the process of The Six Minute Solution, I kept a running journal of observations that I made during the process. While students read with their partners, I was able to observe where certain students were truly struggling when it came to reading, what certain students' strengths were, and what was or was not going well with the Six Minute Solution process as a whole. These observations also enabled the data to become

more personal to me because it was information I was gathering from watching my students and not information that was generated for me by a computer.

Procedures for Data Collection and Analysis

Fluency and comprehension are the two variables I have chosen to investigate and therefore I needed data measures that would provide me with clear information in order to discover if a correlation exists between the two. Before I could begin any interventions with my test group of students, I needed to discover where they were testing in terms of reading comprehension and compare their results with my control group.

The first data measure that I used to discover the instructional reading levels for both groups was the STAR reading assessment which served as a pre-test in this action research plan. The STAR was used because it was a computer-based assessment that targeted students' individual comprehension scores by providing them with texts and questions that are at their instructional reading levels. Based on student answers to the comprehension questions, the STAR may adjust its' level of textual difficult in order to ensure that students' true instructional levels were being assessed and targeted. While students are taking the STAR, I walk around and monitor that they are staying on task. When all students had completed the test, I logged into *Renaissance Place*, which was the program that contains the STAR assessment, and I printed out a summary report of my students' scores. I focused on the instructional reading category, because those were the scores that were to be used to match students with a partner at the same instructional level in preparation for The Six Minute Solution fluency intervention.

The next set of data measures that I used were from The Six Minute Solution fluency intervention. This intervention was only used with my test group. Students and

their partner read and collected data on the same passage that was at their instructional reading level for one week at a time. Partner 1 read their passage for 1 minute while Partner 2 followed along and underlined any errors that Partner 1 made while reading. At the end of the minute, Partner 2 calculated Partner 1's total words read, subtracted the errors made from the total words and discovered the correct words read by Partner 1. This information was recorded at the bottom of the reading passage on the lines provided and specified for each of the areas. The process was then repeated while Partner 2 read and Partner 1 followed along and recorded Partner 2's total words read, errors, and correct words read.

After both partners had gone through the reading process, they exchanged passages so that Partner 1 had their data in front of them and Partner 2 had theirs. Students then recorded their correct words read on a line graph. They recorded the date and their passage number and then created a bar on the graph at the number that specified their correct words read on that day. After graphs were complete, students also recorded their correct words read on another chart that contained a place for the passage number, date, and correct words read. The graphs and charts served as a way for students to monitor their own progress and growth throughout the implementation stage of the Six Minute Solution intervention. I collected graphs and charts at the end of each week and recorded student's correct words read in an Excel spreadsheet. The Excel enabled me to have all of my students' data in one place in order to keep track of their progress.

While students were going through the intervention process with their partners, I recorded observations. The observations served as personal data to me about what I observed taking place amongst my students and their partners. Observations included

information such as where I observed students having weaknesses when reading, where their strengths were, how they interacted with their partner, and how well or accurately they recorded their fluency data.

The final data measure used for both my test group and my control group was the STAR assessment. A post-test was administered to discover if the students in the test group, who received the fluency intervention, made any growth in their comprehension scores compared to the students in the control group who did not receive the fluency intervention. After all students completed the STAR, results were again printed out as a summary sheet from *Renaissance Place* and instructional scores were analyzed for both groups. The results of the post-test served as the final measure as to whether or not a correlation existed between reading fluency and reading comprehension, and provided an answer to the research question: *do targeted fluency interventions positively impact comprehension*.

Data Results

This study uses qualitative and quantitative data collection and measurement in the attempt to answer the research question *do targeted fluency interventions positively impact comprehension?* The quantitative collection was use in connection with the pre and post-test data, and fluency scores. The qualitative collection is comprised of observational notes taken in a journal throughout the implementation of the Six Minute Solution fluency program.

STAR Results

The results of the STAR pre and post-test for both the test and the control groups can be read as initial grade level, the whole number, and the month of that grade, the

decimal, that students are instructionally able to comprehend texts. For example a student who has a score of 3.3 is a third grade level student in the third month.

The students in the test and control groups were chosen as a result of similar STAR pre-test scores. However, the mean of the test group was found to be slightly lower than the control group. The mean score for the test group on the pre-test was calculated to be 4.4 with a standard deviation of 1.23. The mean score for the control group was calculated to be 4.62 with a standard deviation of .94. The post-test results also revealed that the test group had a slightly lower mean than the control group. The mean score for the test group on the post-test was calculated to be 4.69 with a standard deviation of 1.52 while the mean score for the control group was calculated to be 5.1 with a standard deviation of 1.12. The mode score for the test group on the pre-test was 4.4. The mode score for the control group was 3.5. However, no mode score was revealed in the post-test scores for either group. Additionally, the mode score for both the test and control groups during the pre-test was 4.4 and the mode scores for both groups during the post-test were 4.0 and 6.2. Despite the test group having lower pre and post-test mean scores, both the test and control groups showed growth in their individual results from the pre to the post-test and the mean scores of the whole groups.

After analyzing the results of both groups, I noticed that five out of ten students, fifty percent, in the test group made an increase in their scores from the pre to the post-test. While the other five students, fifty percent, in the test group maintained the same score from the pre to the post-test, no one decreased their score in the post-test. The greatest increase that occurred in the test group for the post-test occurred with Student J. This student increased by 1.5 grade levels, which brought their score from 6.3 to 7.8.

Student J was also one of two students who tested to be reading on grade level during the pretest. This student has now tested to be reading above grade level. Student G increased by 0.3 which took his score from a 4.9 to a 5.2. This student increased to a fifth grade instructional reading level. The remaining three students increased their score within their current third to fourth grade reading level.

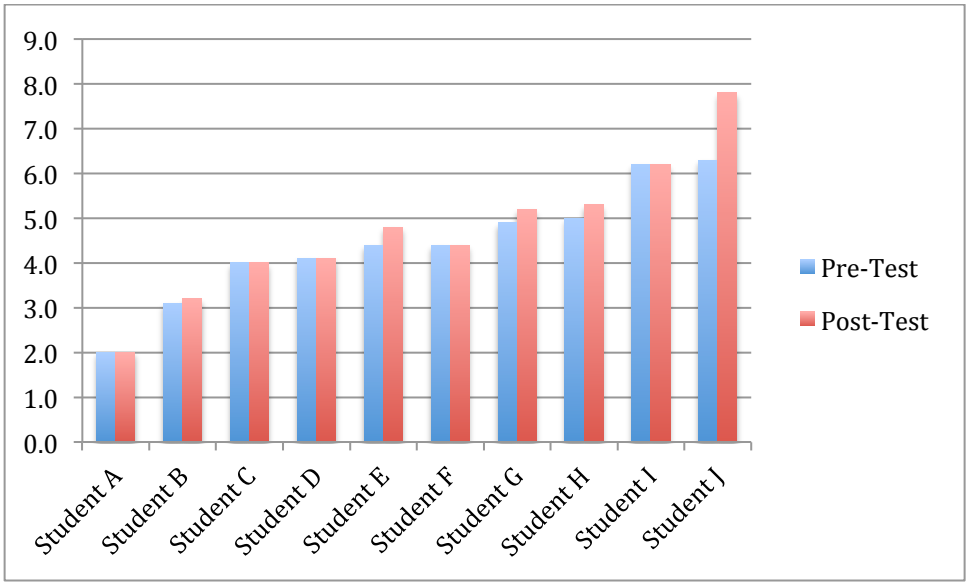
In the control group, six out of ten students, sixty percent, increased their STAR score from the pre-test to the post-test. Students A and E are the only two students to decrease their score from the pre to the post-test and Students I and J maintained the same score from the pre to the post-test. Three students in the control group tested to the next grade level in their post-test score. Student C increased from 4.0 to 5.5, Student G increased from 4.9 to 6.4, and Student H increased from 5.0 to 6.0. Student G also showed the greatest growth of 1.5 in the control group. This is the same amount of growth that was shown by Student J in the test group. Student I in both the test and the control group maintained a STAR reading score of 6.2, which keeps them both on grade level. The results can be shown in the charts and graphs below.

STAR Pre and Posttest Results: Test Group

Student Name	*STAR Pre-Test Score*	*STAR Post-Test Score*
Student A	2.0	2.0
Student B	3.1	3.2
Student C	4.0	4.0
Student D	4.1	4.1
Student E	4.4	4.8
Student F	4.4	4.4

Student G	4.9	5.2
Student H	5.0	5.3
Student I	6.2	6.2
Student J	6.3	7.8

STAR Pre and Posttest Results II: Test Group

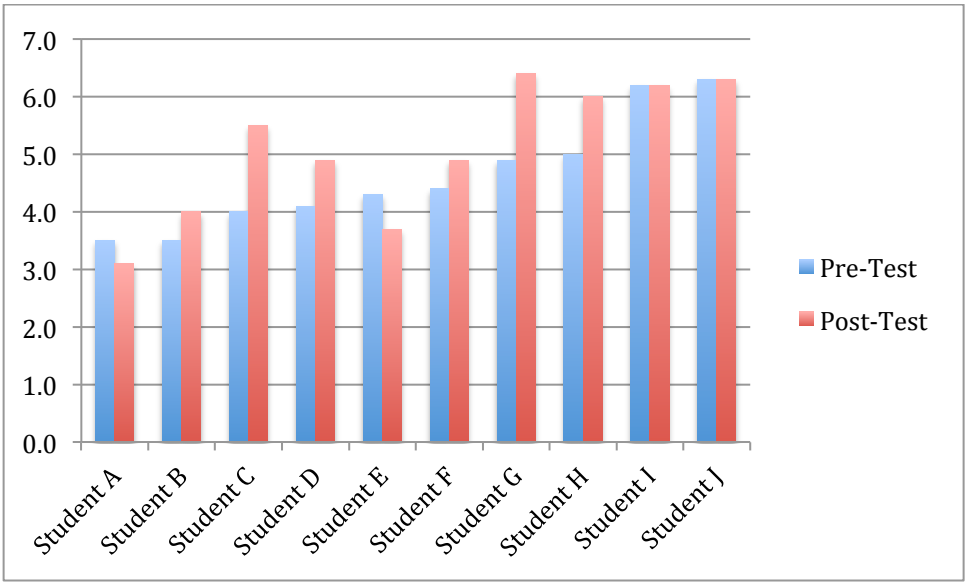


STAR Pre and Post-test Results: Control Group

Student Name	*STAR Pre-Test Score*	*STAR Post-Test Score*
Student A	3.5	3.1
Student B	3.5	4.0
Student C	4.0	5.5
Student D	4.1	4.9
Student E	4.3	3.7
Student F	4.4	4.9

Student G	4.9	6.4
Student H	5.0	6.0
Student I	6.2	6.2
Student J	6.3	6.3

STAR Pre and Post-test Results II: Control Group



The Six-Minute Solution

The next set of data collected was from the test group only. The ten students in the test group received the Six Minute Solution targeted fluency intervention. The students were paired with another student who tested to be at the same, or close to the same, instructional reading level based on the STAR pretest. The reading passages that students were provided with corresponded to their instructional reading level. Students read the same passages for one week at a time. Students progressed to the next grade

level when their average CWPM were higher then the 90th percentile of their current grade levels' CWPM.

Six-Minute Solution Fluency Results

The targeted fluency intervention, The Six Minute Solution provided a wide range of data. Not every student showed equal growth. Some students increased from day-to-day while others decreased. These increases and decreases were reflected in the students' individual weekly CWPM averages and the class's CWPM averages as a whole.

The greatest individual average increase that occurred during Week 1 was from Student I. This student increased an average of 61 CWPM for the week. In Week Two, Student B showed the greatest individual average increase with 49 CWPM. Student C demonstrated the greatest individual average increase for Week 3 with 60 CWPM. In Week One to Week Two, no student decreased their CWPM from the beginning of the week to the end. However, in Week Three, Student H's CWPM average stayed the same and Student G's CWPM average decreased by five CWPM.

Increases among the students' fluency can also been seen from day to day. Every student from at least one day to the next showed positive growth in CWPM. Student E had the greatest increase out of all the students. This increase can be found during Week Three from October 30-October 31, with an increase of 47 CWPM. By Week Three, this student was one of only two students who increased to the next grade level in terms of reading passages. While there were many increases from day-to-day for the students, there were some decreases as well. For example, during Week One Student J decreased 60 CWPM from October 15- October 16. This was the greatest decrease of all the students during the testing period. Another substantial decrease that occurred was on

October 18th for Student F. Their score went from a 203 to 179 CWPM, a decrease of 24 CWPM.

Throughout the implementation process, one pair of students, Students E and F increased from the 4th grade reading level passages to the 5th grade passages. This was a result of their CWPM scores being higher then the 90th percentile CWPM scores in the 4th grade level. This increased occurred at the end of Week Two and the pair read a 5th grade passage for Week Three.

Overall, the testing group had decreased their class average CWPM from week one to week three. Week one's average was 133 CWPM, while week three's average was 131 CWPM. It should be noted that from Week Two to Week Three the testing group had shown an increase in their group average of 124 to 131 CWPM. While the class average may have decreased from the start to the finish of the testing period, 4 out of the 10 or 40% of the individual students had increased their CWPM from the first day to the last.

	Name	Student A	Student B	Student C	Student D	Student E	Student F	Student G	Student H	Student I	Student J	Class Average
Week 1	Passage Level:	301	301	402	402	402	402	501	501	601	601	
	15-Oct	59	107	118	117	161	138	150	95	N/A	123	
	16-Oct	51	128	117	117	177	164	159	110	126	90	
	17-Oct	66	121	119	124	189	203	137	111	159	145	
	18-Oct	70	151	127	123	195	179	173	116	187	171	
	Overall Increase	11	44	9	6	34	41	23	21	61	48	
	Average	61.5	126.75	120.25	120.25	180.5	171	154.75	108	157.33	132.25	133.26
Week 2	**Passage Level:**	302	302	403	403	403	403	502	502	602	602	
	22-Oct	48	56	101	97	168	163	114	94	N/A	129	
	23-Oct	63	98	118	109	177	139	127	96	N/A	144	
	24-Oct	49	105	123	117	188	140	138	95	141	146	
	25-Oct	75	105	146	128	179	179	149	129	151	152	
	Overall Increase	27	49	45	31	11	16	35	35	10	23	

	Average	58.75	91	122	112.75	178	155.25	132	103.5	146	142.75	124.2
Week 3	**Passage Level:**	303	303	404	404	501	501	503	503	603	603	
	29-Oct	44	100	96	98	182	179	160	100	125	133	
	30-Oct	39	129	132	132	155	148	159	95	125	166	
	31-Oct	61	135	156	157	202	180	155	100	135	163	
	Overall Increase	17	35	60	59	20	1	-5	0	10	30	
	Average	48	121.33	128	129	179.67	169	158	98.33	128.33	154	131.37

Discussion

Reflection

I am pleased that the implementation of this action research project went as planned. I was able to incorporate a test and a control group as a means of comparison for my data collection. I was also able to effectively implement The Six Minute Solution with my test group as the targeted fluency intervention. All of my students in the test group were able to actively participate in the intervention and they all showed growth in their fluency scores throughout the three weeks of implementation. Half of the students in the test group also increased the comprehension scores from the STAR pre-test to the post-test. Not one of the students' comprehension scores decreased from the pre-test to the post-test. Quantitative and qualitative data was collected and I was able to implement researched-based strategies such as repeated reading and providing texts at students' instructional reading levels in order to help improve the fluency and comprehension scores and seek an answer to my research question.

During the two practice days for The Six Minute Solution with my test group, I provided the students with the materials that they needed. I provided all students with the same reading passage that was at the instructional level of the lowest student in the group. It was important that the students did not struggle while going through the practice

portion of the intervention. I also provided each group with one marker, and a timer. I noticed that it was difficult for a few of the students to keep track of the one minute time on the timer and follow along in the passage as their partner read to identify and underline errors. One solution a student offered was to clip the timer to the passage so that they could easily see it while they followed along and not have to hold the timer in their hand. The partner reading had to be reminded that when the partner keeping the time said stop, they were to stop reading so that their partner could count up their total words read, errors, and correct words read.

Another aspect of the process that I initially did not think of when I was instructing the students on how to go through the process was how long to wait when the partner reading hesitated on a word they did not know. To keep it standard across all groups, partners were told that if the partner reading struggled with a word, they were to wait five seconds and then tell their partner what the word was so that they could continue. This happened specifically with one group of partners and I noticed that the first time one partner read, his partner corrected him on three words and the second time he read, he said the words correctly and did not make the same errors.

Overall, the use of the targeted fluency intervention, The Six Minute Solution proved to be beneficial to my students in the test group. I believe that the smoothness of the implementation was due to the fact that I was able to spend two days prior to beginning the implementation process teaching my students about the six-minute process and giving them opportunities to practice going through the process with their partner. One of the greatest obstacles to overcome during the practice and the implementation process was getting the students to effectively multi-task. While one partner was reading,

the other partner was in charge of keeping track of the one minute time on the timer while following along in the passage as their partner read, underlining errors, correcting errors, and marking where the partner stopped reading once their one minute was up.

Student G and Student H seemed to have the greatest difficulty with the multi-tasking and this seemed to affect their scores on certain days. For example, during Week Three, Student G's average CWPM remained the same and Student H's CWPM decreased by five. This may have been due to mix-ups that occurred with the timing procedures for these students. These two students were partners throughout the three weeks of implementation. During Week Three these students frequently had to be reminded to keep track of the timer as well and remember to monitor their partner as they read. On October 31, this pair of students did two readings each because they severely lost track of the total number of words that their partner had read and they had forgotten to start the timer when instructed. Other observations that were made between these two partners, were that based on the STAR pre-test, these students tested to be at a 4.9 and 5.0 reading level. Student H had a higher STAR score, or comprehension score. However, throughout The Six-Minute Solution intervention, Student G had higher CWPM fluency scores. While Student G consistently had higher fluency scores throughout the implementation process, the STAR post-test results revealed that both students made growth in their comprehension scores.

As there were many gains made throughout the implementation of The Six Minute Solution, there were some decreases as well and some factors that contributed to these decreases. Student F had one of the greatest decreases from one day to the next. Prior to beginning the implementation for the day, Student F stated that they did not have

their glasses. Their score went from a 203 to 179 CWPM, a decrease of 24 CWPM, indicating that the lack of glasses may have played a role in the student's fluency scores. This student also showed disappointment in themselves due to the decrease in their score. They had their glasses every other day of the implementation process.

Students' E and F were partners throughout the process and were the only two students to increase to the next grade level texts due to their CWPM scores. Student E had the greatest increase among all the students. Throughout the implementation of this intervention, this student was very eager to participate and looked forward to increasing their score each day. Being one of only two students to increase to the next grade level's passages may have boosted Student E's confidence as well.

Throughout the three weeks of the implementation process, the students in the test group became accustomed to the routine of coming in to class, getting settled, and then moving to the designated area of the room for the intervention. The students created jobs amongst themselves as to who gathered the materials for their partnership, who put materials away, and who cleaned off their plastic sleeves containing their passages that they wrote on during the process. The roles that the students created enabled the process to run smoothly and in a timely manner each day. The students did exhibit motivation each day to improve their scores. I would hear them telling their partners what their CWPMs were from the previous day and encouraging them to beat that score. They enjoyed telling me when they improved and they were accountable for their mistakes, knowing where they or their partners made mistakes and offered solutions for how to fix those mistakes the next time around.

The only negative or drawback to this project was the time frame. I wish I could have had a longer time period than three weeks to collect data on my students' fluency scores. Three weeks went by very quickly and felt like a very short amount of time. By the third week, the students had become much more independent with the intervention and did not need very much prompting from me to go through the steps of the process. I would have liked to see how the implementation of the intervention may have changed as the students' became more independent with it and relied more heavily on their partners than on me.

Action Plan

Since I saw success with the use of The Six Minute Solution intervention, I plan to continue to use it with my students. However, as opposed to implementing the intervention with a group of students from one class period, I plan to use the intervention with my next marking period Enrichment class. Enrichment is a half hour period every day where students receive additional supports in the core content areas in a smaller group setting. I plan to select students are reading below grade level and the students selected will be a mix of General Education and Special Education students as opposed to only Special Education students which I used for this project.

Continuing to implement this fluency intervention will also tie in to the three tiers of Response to Intervention, which is also being implemented at my school this year. The Six Minute Solution would be considered a tier two intervention, which targets specific students at their instructional levels while still exposing them to grade level materials. I have also learned that The Six Minute Solution is also available as an online program. If I chose to go that route for the next round of implementation, that would

alter the implementation process that was used throughout this project because the students would not need to gather their materials each day and they would not be interacting as much with a partner as they were throughout this process. I am unsure which method I would choose to use, as I would want to become very familiar with the online version of the intervention before I would introduce it to my students.

I will continue to use the STAR assessment as progress monitoring tool for my students reading comprehension levels. Students' instructional reading levels will help to determine partnerships for this intervention, as well as determine levels of texts that should be selected as a part of in-class instruction. I also plan to share the results with my school's literacy coach, and teachers in other grade levels and possibly encourage them to implement this fluency intervention with their struggling readers as well in the hopes of helping them improve their fluency and comprehension scores.

Conclusion

Students who struggle with reading, especially Special Education students with learning disabilities, need additional supports put in place to help them be successful with the fluency and comprehension of a text. The effort to determine the relationship between reading fluency and reading comprehension allowed students to have opportunities to practice reading texts. By doing so, many students were able to improve their fluency speed and accuracy while also improving their reading comprehension.

The Six Minute Solution fluency intervention demonstrated to be a valuable intervention to use with my students. The students were able to read passages at their instructional reading levels, which allowed them to develop a sense of confidence as they read because they did not hesitate at each word that they came upon due to not know

what that word was. I believe that the confidence my students gained and the improvements that they made will continue to carry over into the general English content, which becomes increasingly difficult each year as students progress into higher grades. While it may be difficult at times to always provide a target fluency intervention to students while coinciding with the general curriculum, students will continue to receive accommodations that are stated on their IEPs and they will be encouraged to practice those skills and strategies that they gained from the intervention.

Both the quantitative and qualitative data that I collected proved to be beneficial when determining students' growth each week and determine which students were reading to progress to a higher instructional level text. The qualitative data, served as explanations to myself as to why students' quantitative scores may have been lower or higher from day-to-day. At the end of the intervention, all of the students in my test group increased their comprehension score on the STAR assessment or their scores stayed the same from the pre-test. My hypothesis was correct in that the intervention did have a positive effect on the students and that fifty percent of their comprehension scores increased from the pre-test to the post-test. While I cannot say for sure that The Six Minute Solution alone was responsible for my students' growth on the post-test. I do believe that target fluency interventions do have a positive impact on comprehension because not one of my students' comprehension scores decreased.

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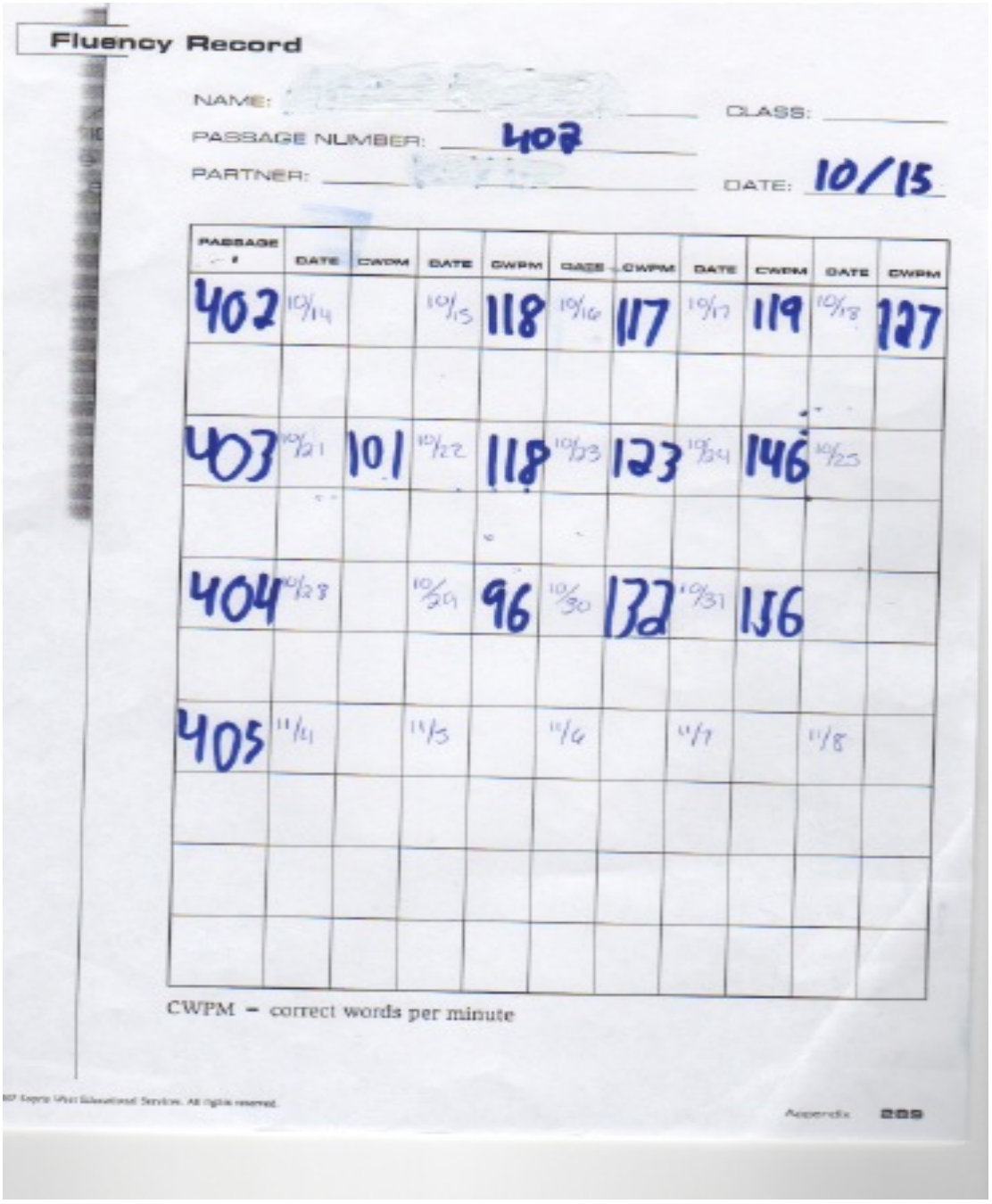
Appendix

Student C Fluency Chart and Graph



Fluency Record

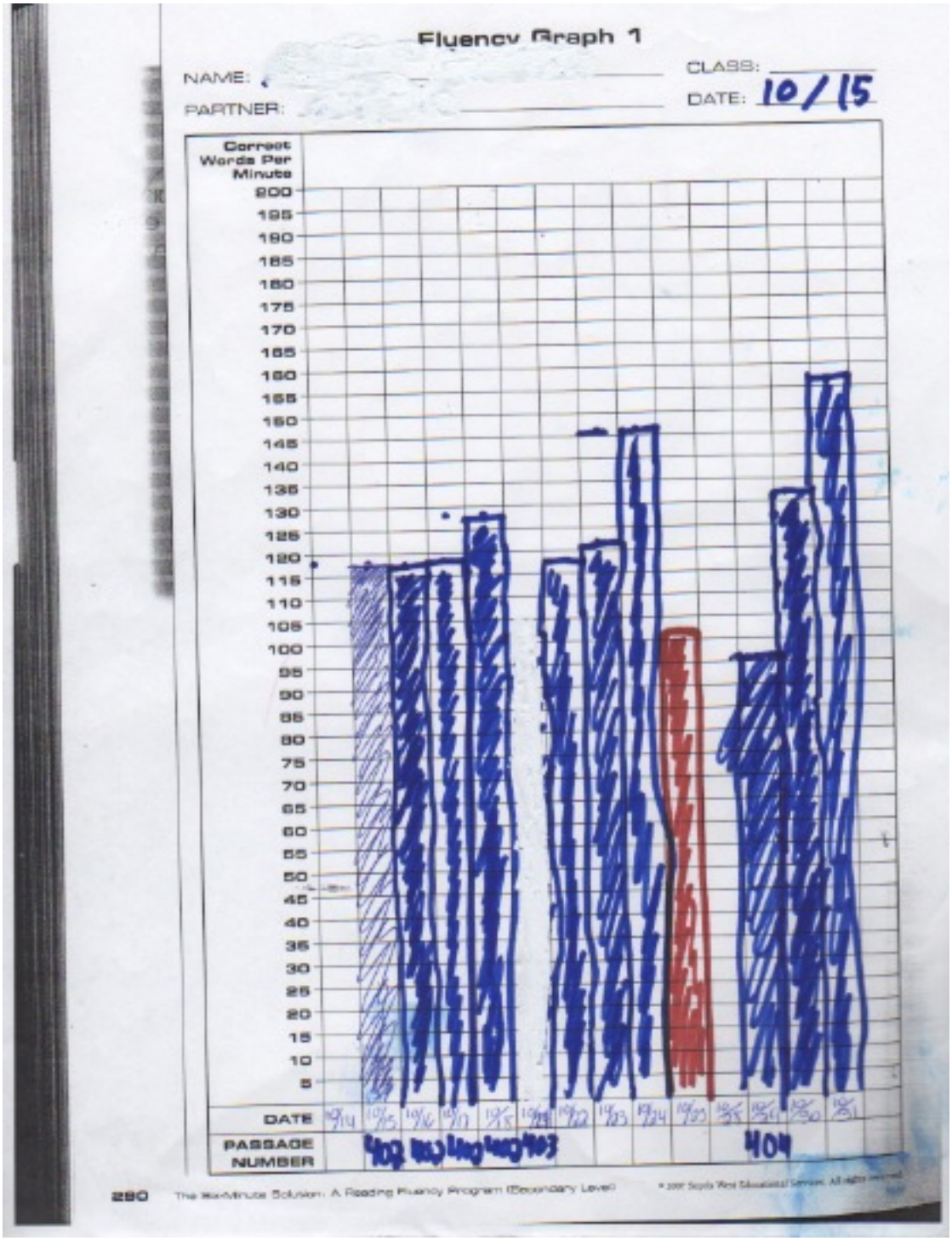
NAME: [redacted] CLASS: _____

PASSAGE NUMBER: 402

PARTNER: [redacted] DATE: 10/15

PASSAGE #	DATE	CWPM	DATE	CWPM	DATE	CWPM	DATE	CWPM	DATE	CWPM
402	10/14		10/15	118	10/16	117	10/17	119	10/18	127
403	10/21	101	10/22	118	10/23	123	10/24	146	10/25	
404	10/28		10/29	96	10/30	122	10/31	136		
405	11/4		11/5		11/6		11/7		11/8	

CWPM = correct words per minute


Fluency Graph 1
NAME:
CLASS:
PARTNER:
DATE: 10/15
Correct Words Per Minute
200
195
190
185
180
175
170
165
160
155
150
145
140
135
130
125
120
115
110
105
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
DATE
PASSAGE NUMBER
404
280
The Six-Minute Solution: A Reading Fluency Program (Secondary Level)

Student G Fluency Chart and Graph

Fluency Record

NAME: _____ CLASS: _____

PASSAGE NUMBER: 402

PARTNER: _____ DATE: _____

PASSAGE #	DATE	CWPM	DATE	CWPM	DATE	CWPM	DATE	CWPM	DATE	CWPM
402	10/14	[illegible]	10/15	161	10/16	177	10/17	189	10/18	195
404	10/21	167	10/22	168	10/23	177	10/24	198	10/25	179
502	10/28		10/29	182	10/30	155	10/31	202		
	11/4		11/5		11/6		11/7		11/8	

CWPM = correct words per minute

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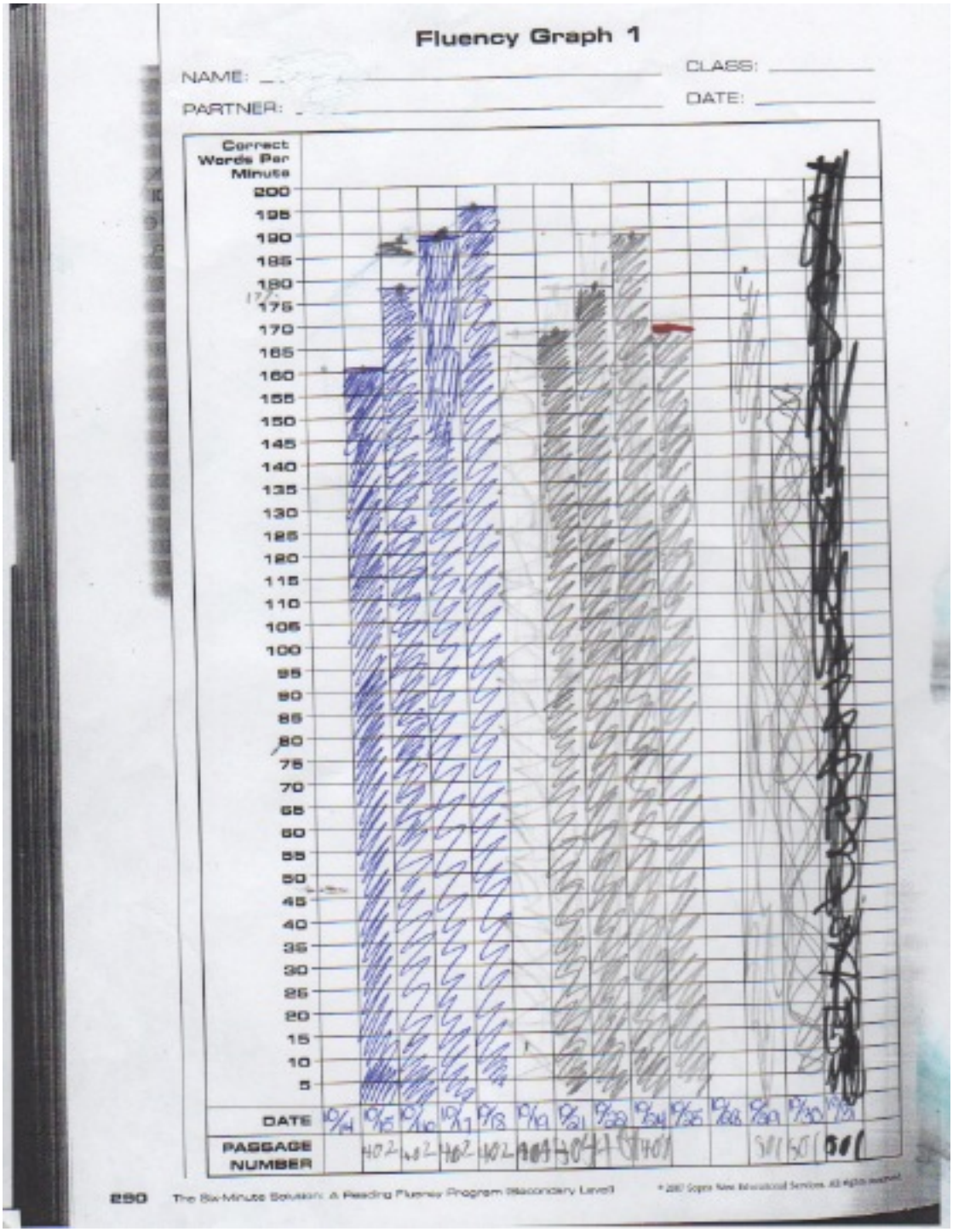

Fluency Graph 1

NAME: _____ CLASS: _____

PARTNER: _____ DATE: _____

Correct Words Per Minute

200 195 190 185 180 175 170 165 160 155 150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5

DATE

PASSAGE NUMBER

250 The Six-Minute Solution: A Reading Fluency Program (Secondary Level)