

Wireless Writing Program: Peace River North Report on 2012-2013 Cold Write Data and iPad Pilot

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June 2013

Context

The Wireless Writing Project (WWP), which began in 2001, provides a macbook computer to every student and teacher in Grades 6 and 7 in the Peace River North School District. The 2013-2014 school year is the last year of our latest 4 year lease of 900 macbooks. A decision is required from the Board of Education for the future of the Wireless Writing Program at their earliest convenience in the 2013-2014 year.

This year (2012-2013) due to an increase in enrolment in the WWP grades of 6 & 7 we also purchased iPads to cover a needed number of devices. We ran the iPads as a pilot with parallel goals and pedagogy as the regular program to compare writing achievement and change between grade 6 students using an iPad or a macbook. Our hypothesis was that the type of technology was not as important as the pedagogy.

The WWP is designed to improve student achievement and engagement in writing as well as be used across the curriculum. District assessments performed twice a year along with Provincial assessments, and Teacher action-research projects have consistently shown gains for students in the WWP.

In previous years we have collected data for a matching pair cohort. Teachers assess student cold writes (impromptu writing) and data is collected for Grade 6 students this year. We will ask for data to be provided for Grade 7 students next year and compile data for students that have completed all four assessments. Teachers have opportunities both during the school day and after the school day to work to calibrate their assessment practice using the BC Performance Standard quick scales appropriate for their

grade. All students and teachers in grade 6 and 7 are asked to participate in the cold writes each year as it is an excellent formative assessment which uses the BC Performance Standards for evaluation.

Teachers in the pilot worked collaboratively, participated in action research projects, and attended professional development around writing instruction using iPads.

Results

This being the first year of the two-year study we would not normally release the results. Since we are comparing achievement with the different devices, and the Board will be providing a decision on the future of the program for early fall of 2013 it is prudent to share them.

Overall Results

The Wireless Writing Program continues to show gains in writing achievement. Overall, 95% of our grade 6 students were meeting, fully meeting, or exceeding expectations by the spring cold write. This increased from 81% in the fall. Our ongoing goal has been for this measure to be 95% or higher.

Overall, our students in grade 6 that were fully meeting or exceeding expectations increased to 65% in the spring from 37% in the fall.

Overall our Aboriginal students increased from 71% meeting or higher in the fall to 90% in the spring.

A gap continues in achievement by gender. In the fall 26% of all males were not yet within expectations, while 9% of all females were not yet within expectations. By the spring that decreases significantly to 7% (male) and 2% (female) who were not yet within expectations. Historically there is a 5-10% gap that continues between male and females.

Our male Aboriginal students begin the fall with 57% meeting expectations or higher. By the spring this improves to 86%. Our female Aboriginal students started the year with 83% meeting or higher and improved to 94% by the spring. The starting difference between Aboriginal males, and all males not yet meeting expectations (43% and 26%) continues to be a concern. There is twice the number of Aboriginal males not yet within expectation at the spring cold write compared to all males. (14% and 7%). Considering the starting percentages for the males, there are significant increases through the year for all males and Aboriginal males.

iPad vs Macbook Results

The cohort size for iPad and Macbook were n=64 and n=335 respectively.

The cohort of students using iPads had a significantly higher number of Ministry coded students (10 of 64) per capita (IEP excluding gifted) compared to the macbook cohort (31 of 335). Students in the iPad pilot were from two Bert Ambrose classes and one Robert Ogilvie class.

Students with macbooks started the fall with 79% meeting expectations or higher. This number increased to 96% by the spring.

Students with iPads started the year with 86% meeting expectations or higher. This number increased to 91% by the spring.

There were a larger number of students fully meeting or exceeding expectations in the iPad cohort at 71% compared to 63% of the macbook cohort.

Conversations

In conversation with the teaching and technical staff, and the students involved in the pilot we know that the iPads are very different from the laptops.

Teachers reported that the technology gets out of the way so that learning can happen faster. There is less time showing students how to use the iPads and apps compared to macbooks. Students had pointed out that the iPads could not play Flash based games which is not a specific concern as any games that we wanted to make available for learning purposes could be added as an appropriate app. This is desirable as it limits off task use of the devices.

We heard that teachers and students prefer a tactile keyboard where they have used them before. We did provide two Bluetooth keyboards to students who had a physical or visual impairment where a tactile keyboard would be better for them. For next year we will purchase a few more keyboards to try out and allow students to bring in their own Bluetooth keyboards if they so desire. From a technical standpoint there is a considerable amount of time at the frontend and backend to configuration. Once we are more proficient with setup it will likely require a similar or lower amount of time than the macbooks. iTunes accounts for app purchasing have been a hoop that we have learned how to leap through with an eye towards future sustainability. The iPads have held up quite well with only one cracked screen. Several had Home button issues that could be overcome with an accessibility feature that adds a Home button to the screen or use of gestures to return to the apps screen. Overall battery life is an unknown but we have a few first generation iPads that are around 3 years old and doing well.

Conclusion

While iPads are significantly different from macbooks, barriers or needed changes that have presented themselves can be overcome or adapted for.

Considering the cohort size and the significant difference in percentage of coded students, the writing achievement in the iPad cohort compared to the macbook cohort is very similar. As hypothesized, the type of technology is not important. The pedagogy along with technology appears to be most important.

Included Appendices

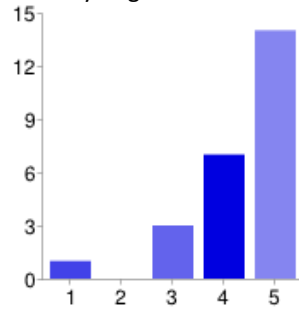
WWP Parent Survey iPad
WWP Student Survey iPad Pilot
WWP 2012 - 13 Cold Write Data

iPad Pilot Parent Survey Results
Jarrold Bell
June 12, 2013

A survey was shared to the parents of our 65 iPad pilot students in May of 2013. The following 25 responses were received as of June 12, 2013.

How do you feel about your child having an iPad for school?

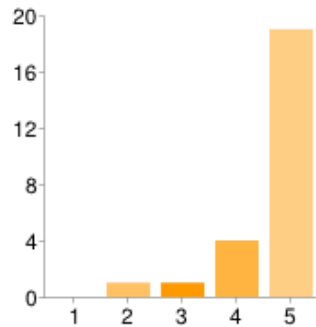
1 – very negative to 5 – very positive



1	1	4%
2	0	0%
3	3	12%
4	7	28%
5	14	56%

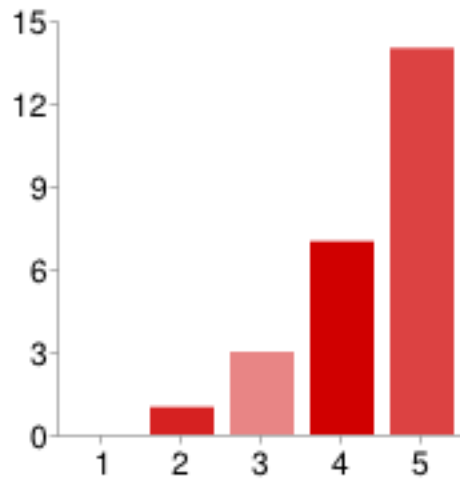
How does your child feel about having an iPad for school?

1 – very negative to 5 – very positive



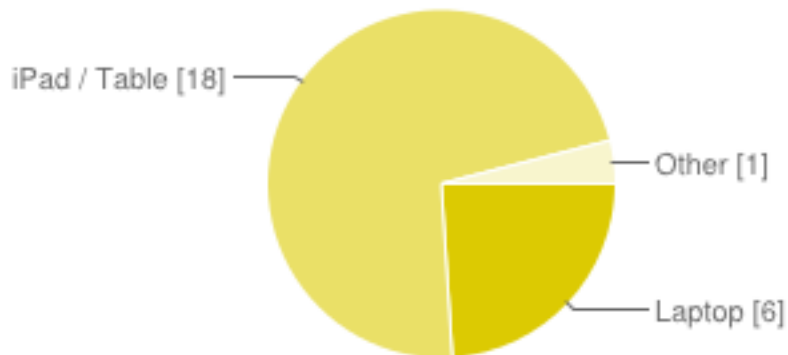
1	0	0%
2	1	4%
3	1	4%
4	4	16%
5	19	76%

Do you think the district should continue with the provision of one-to-one technology to students in grade 6/7?



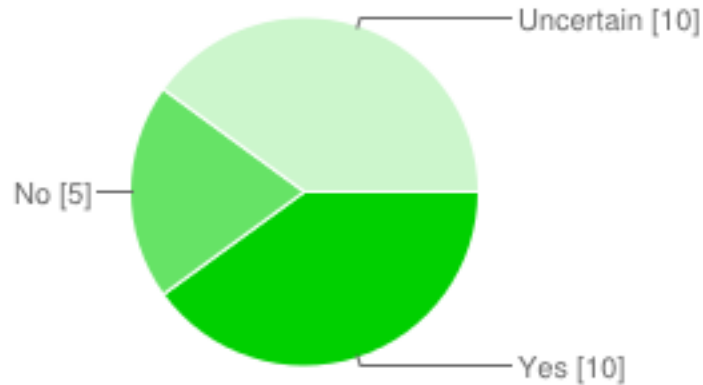
1	0	0%
2	1	4%
3	3	12%
4	7	28%
5	14	56%

If you could pick the device assigned to a your child, which would you prefer?



Laptop	6	24%
iPad / Tablet	18	72%
Other	1	4%

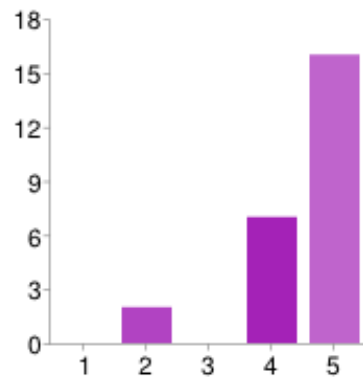
If the district was unable to fund 1:1 provision of technology to students in grade 6/7 would you be able to provide it (i.e an ipad) if it were on the school supply list?



Yes	10	40%
No	5	20%
Uncertain	10	40%

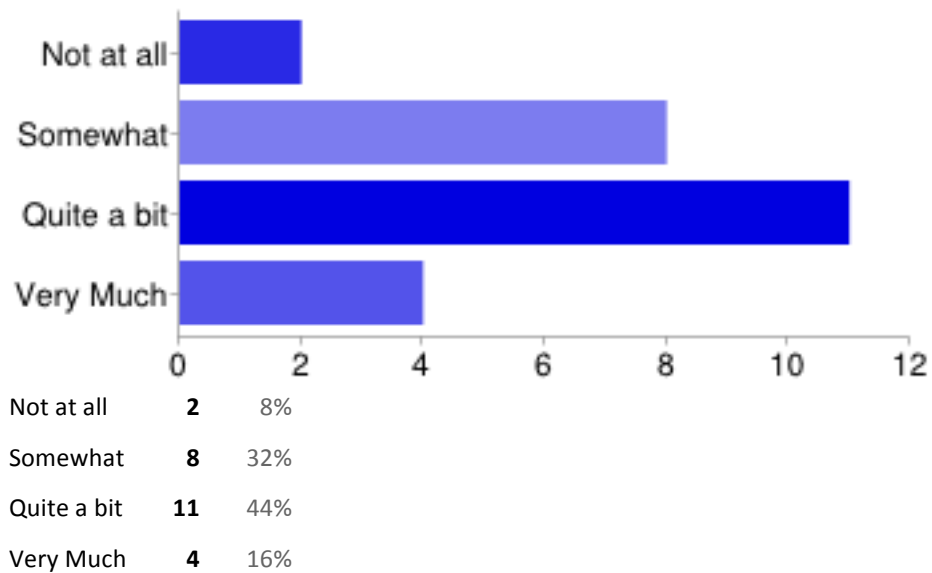
Note – two of the three classrooms that participated were from Bert Ambrose, one from Robert Ogilvie. In other surveys we have done with other grades this question has responses which along the lines of 33-33.

How important is it that students in grade 8-12 be able to have access to technology like a laptop or an ipad/tablet?

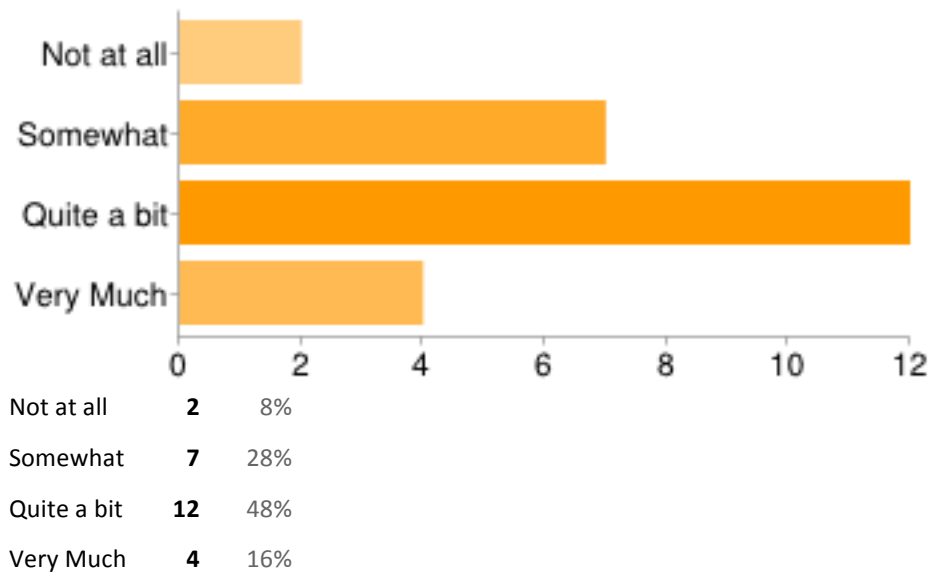


1	0	0%
2	2	8%
3	0	0%
4	7	28%
5	16	64%

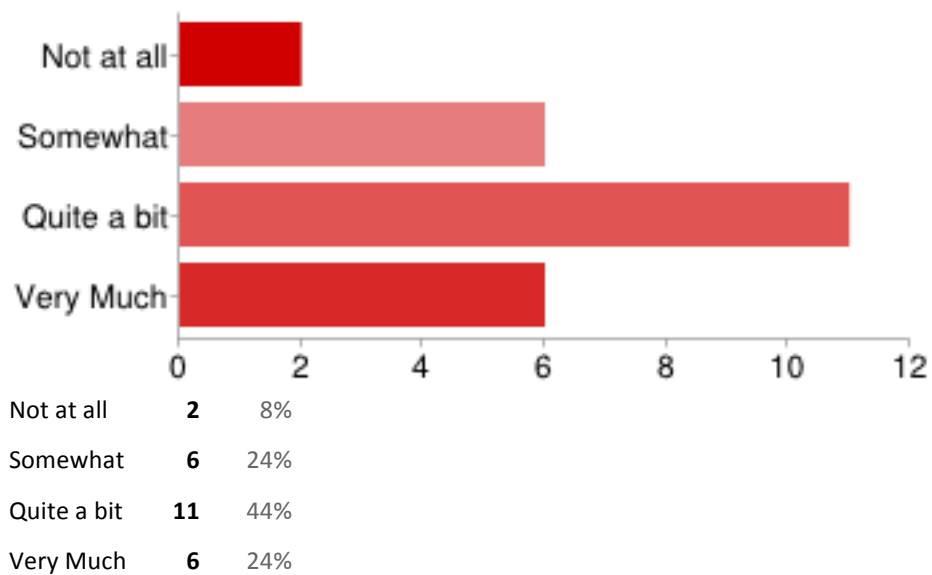
Overall Writing Achievement [To what extent has the iPad changed or helped your child in these areas?]



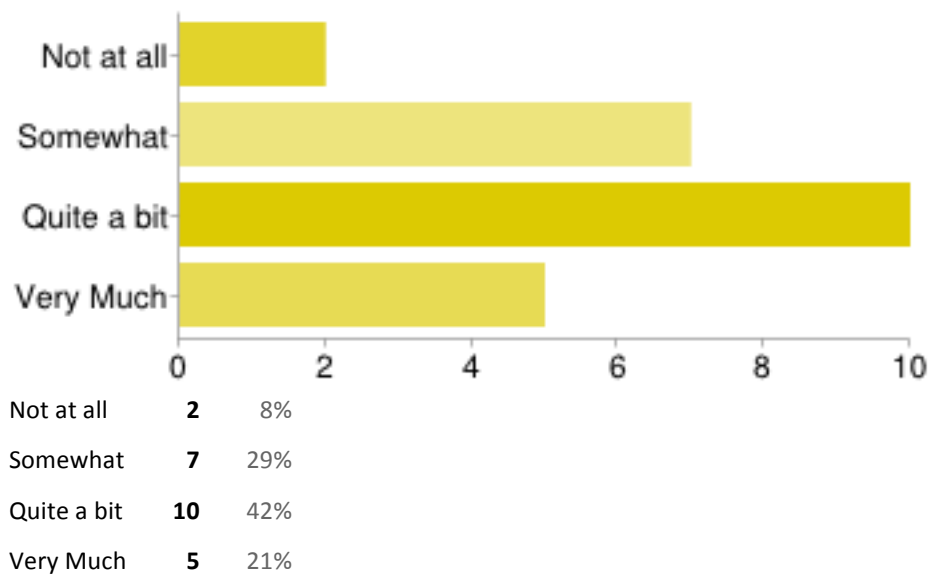
Attitude and Motivation [To what extent has the iPad changed or helped your child in these areas?]



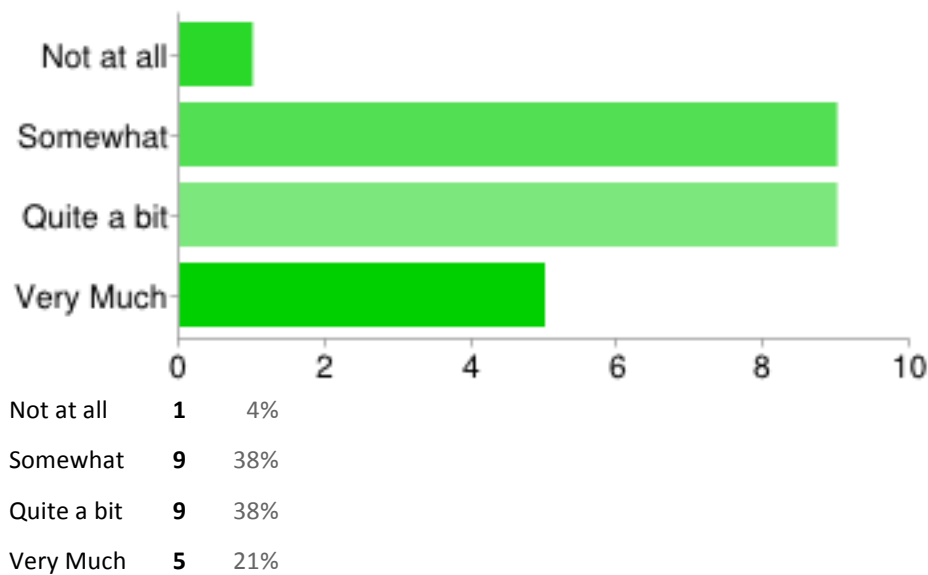
Confidence [To what extent has the iPad changed or helped your child in these areas?]



Editing their work [To what extent has the iPad changed or helped your child in these areas?]



Self-Assessment [To what extent has the iPad changed or helped your child in these areas?]



Without providing any identifying details, what were some great highlights for you with regards to the iPads? [No editing of the responses has been done]

- Motivated to do homework. Size and weight easy to transport etc. Modern technology used in useful and educational ways besides gaming and socializing.
- portable, easy to use
- Allowed child to Because very creative with video, sound, and pictures. Helped him to form sentences better
- A positive aspect to the program is that encourages children that technology can be easy to use and not to fear it.
- Seeing movies made on unit
- My child was excited to do the homework that involved the ipad.
- Watching how much my daughter was able to learn and teach me about the I-pad. All the programs they learned how to use was wonderful. They did great projects on them.
- The greater confidence with technology in general.
- light to carry back and forth
- able to teach orhers what she knew. It is all new to the family
- development of her tech knowledge
- Art/drawing projects.
- Honestly I didn't really see. My daughter use the school iPad as she bought her own. But she was more enthusiastic about doing her work on the iPad.
- The ability to email assignments to teachers.
- My child's difficulties with spelling and wording were not so obvious. I think he felt success in these areas. He also enjoyed some of the educational games.

- My child did some really creative and wonderful things on the iPad. I think they are good for helping connect to the information they need on the internet and need less adult help with their projects.
- If pics were needed for a project and the iPad was at school I could e-mail them from my iPhone and my child could copy and place in report.
- Honestly, With the apparent shortage of text books for students. It was very helpful that the students where able to take photos of text book pages and complete their work that way.
- It's nice for the kids to be able to keep up with modern technology. Having the I-pads provided by the school allows ALL of the children to have an opportunity to use one, something that may not be financially available for all families.
- none.
- Very easy to organize and provide structure to ideas to form them into paragraphs
- I was impressed with the stories that they created and the projects they did, they were very excited to use the technology

Without providing any identifying details, what were problems that your child encountered if any?

- Difficult for typing. Worry about breaking screen. Learning activities on the iPad were limited.
- The home button wouldn't always work.
- None
- None
- Forgetting to charge it other than that it has been great.
- She never expressed issues.
- The apps she was learning on werewonderful with that equipment but she has concerns about next year and not necessarily have knowledge that will be equal to her peer group. Ipads are different than lap tops.
- Setting up his email account.
- Didn't like on screen keyboard, wished they had a wireless keyboard.
- Sometimes slowed down work when it took to long to load or glitches.
- sometimes touch screen wasn't sensitive enough and he found it frustrating to try to get it to do what he wanted.
- Not knowing how to do certain things on the iPad and unable to get homework done. Or when working with other students who didn't know how to use the iPad and making it so others couldn't finish their assignments.
- He enjoyed using the iPad
- None that I'm aware of.
- the games where all for school, did not have tons of fun.

- The ability to have fun and be distracted has never been easier
- None that I know of

Without providing any identifying details, what were problems that you as a parent encountered if any?

- Using it for communicating with other students rather than just schoolwork.
- Less production wanting to play instead of complete tasks.
- "I've found that due to the auto correcting and typing on the schools take home devices our child's writing skills have declined. I understand that typing skills are important too. But I feel that hand written skills must be developed first."
- None
- Nothing
- I found that because she was unable to access her own apple accounts for apps and music(that are heavily monitored) she didn't bring the ipad home very much. Therefore, I rarely saw work she was doing in the technology.
- "It was not able to access her itunes account. This meant it did not come home for me to look at her work as well, she did not like how she could not bring it home at times.
- Overall, her confidence in specific apps has improved. Different word programs and writing development programs have great apps. "
- None.
- None
- The iPad being more important than life itself!
- not knowing how to work it as well as a laptop; we don't personally own an ipad.
- when kids have technical difficulties they sometimes can not get their homework done.
- I found it difficult to monitor the ipad use and found that there were too many issues with students and inappropriate use. We do not have internet at home so the device is useless for home use.
- Updating programs students were using. Apps were added to tablets and with no maintenance after. With these tablets now becoming older, I would think over Christmas or Spring break all tablets would be checked in and maintained for any problems or updates.
- none.
- Not being fluent in the world of apple I was not always able to be helpful
- I did not encounter any issues or problems but was pleasantly surprised when I could see some of the things the kids accomplished with their ipads

iPad Pilot Student Survey Results

Jarrod Bell

A survey was shared to our 65 iPad pilot students in December 2012. We had 61 responses to the survey

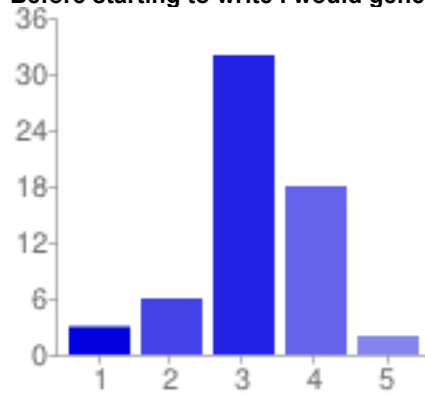
Section 1 - Think back to when you were writing with pen and paper for section 1

In this section we will ask you to reflect on the writing process before you would use technology to write (ie Pen and Paper). For your responses to the question please pick 1 for Never, 2 for Rarely, 3 for Sometimes, 4 for Often, and 5 for All of the time.

Pre-Writing using pen and paper

This section will ask you questions about what you did in the pre-writing stage

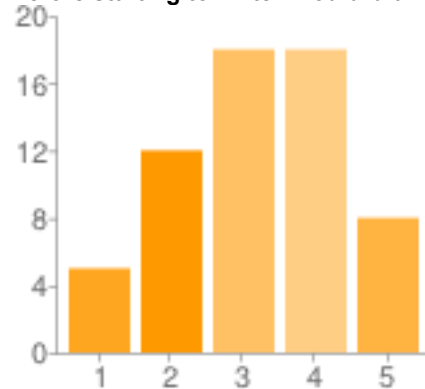
Before starting to write I would generate my ideas for writing in a variety of ways



1 -	Never	3	5%
2		6	10%
3		32	52%
4		18	30%
5 -	All of the time	2	3%

Never All of the time

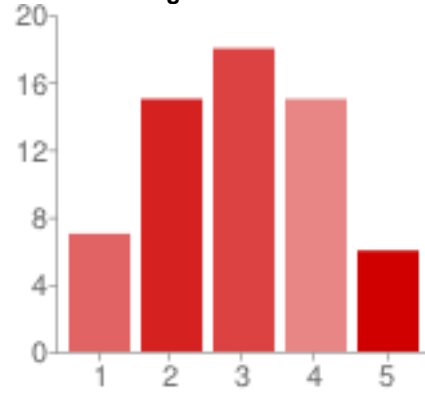
Before starting to write I would brainstorm and list my ideas



1 -	Never	5	8%
2		12	20%
3		18	30%
4		18	30%
5 -	All of the time	8	13%

Never All of the time

Before starting to write I would create a web of my ideas

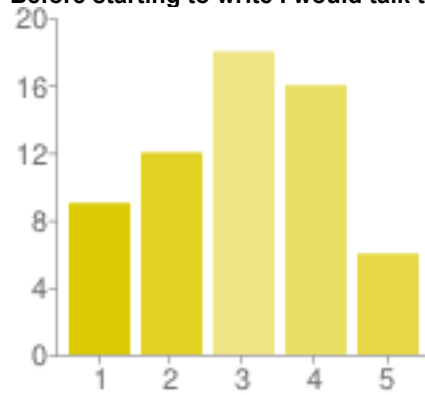


1 -	Never	7	11%
2		15	25%
3		18	30%
4		15	25%
5 -	All of the time	6	10%

Never

All of the time

Before starting to write I would talk to a peer about my ideas

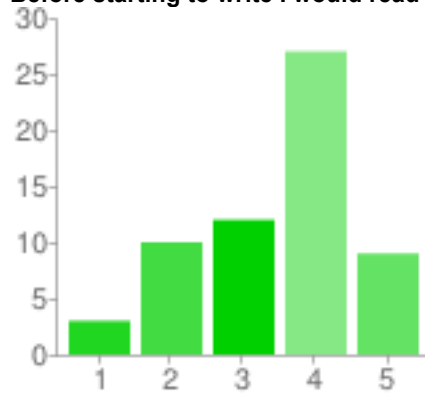


1 -	Never	9	15%
2		12	20%
3		18	30%
4		16	26%
5 -	All of the time	6	10%

Never

All of the time

Before starting to write I would read about my topic

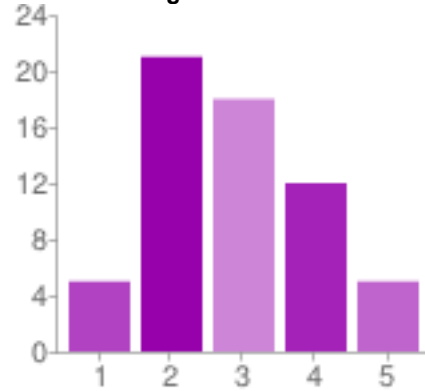


1 -	Never	3	5%
2		10	16%
3		12	20%
4		27	44%
5 -	All of the time	9	15%

Never

All of the time

Before starting to write I would take notes

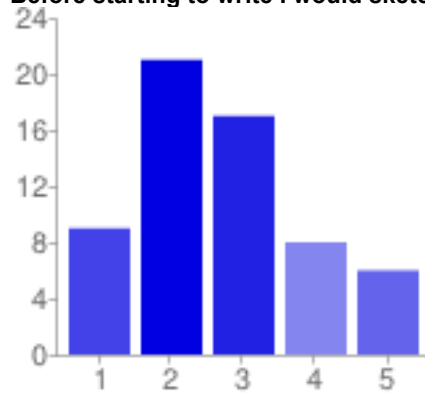


1 -	Never	5	8%
2		21	34%
3		18	30%
4		12	20%
5 -	All of the time	5	8%

Never

All of the time

Before starting to write I would sketch or look at pictures

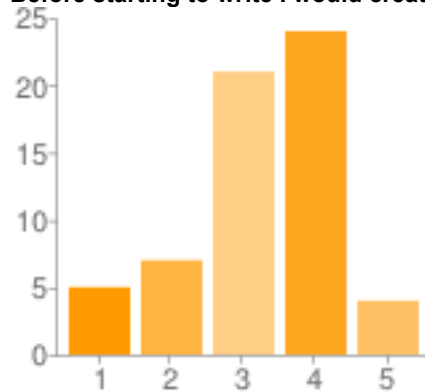


1 -	Never	9	15%
2		21	34%
3		17	28%
4		8	13%
5 -	All of the time	6	10%

Never

All of the time

Before starting to write I would create a plan for my writing



1 -	Never	5	8%
2		7	11%
3		21	34%
4		24	39%
5 -	All of the time	4	7%

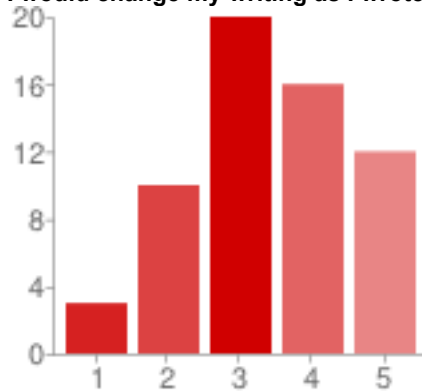
Never

All of the time

Writing using Pen and Paper

This section will ask you questions about what you did in the writing stage

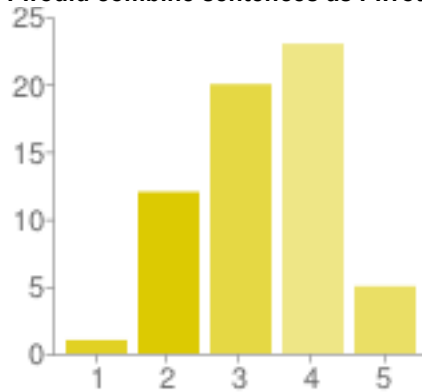
I would change my writing as I wrote



1 -	Never	3	5%
2		10	16%
3		20	33%
4		16	26%
5 -	All of the Time	12	20%

Never All of the Time

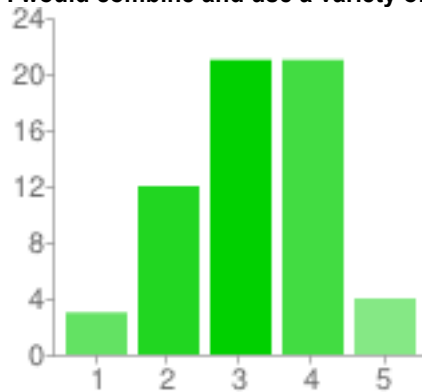
I would combine sentences as I wrote



1 -	Never	1	2%
2		12	20%
3		20	33%
4		23	38%
5 -	All of the Time	5	8%

Never All of the Time

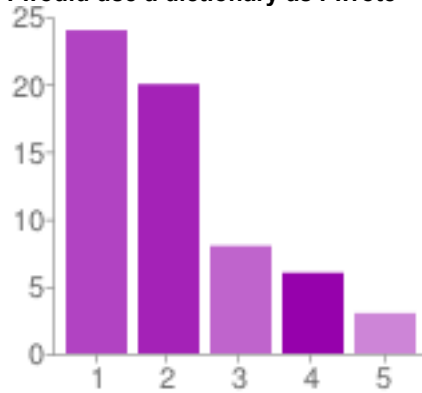
I would combine and use a variety of sentence lengths and beginnings as I wrote



1 -	Never	3	5%
2		12	20%
3		21	34%
4		21	34%
5 -	All of the Time	4	7%

Never All of the Time

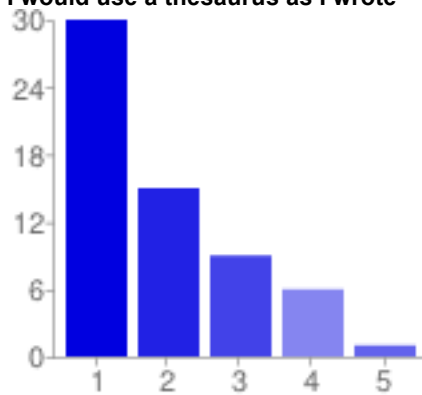
I would use a dictionary as I wrote



1 -	Never	24	39%
2		20	33%
3		8	13%
4		6	10%
5 -	All of the Time	3	5%

Never All of the Time

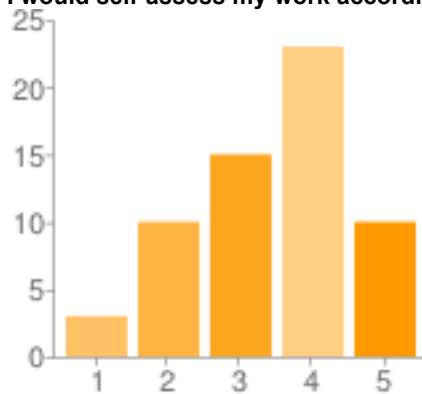
I would use a thesaurus as I wrote



1 -	Never	30	49%
2		15	25%
3		9	15%
4		6	10%
5 -	All of the Time	1	2%

Never All of the Time

I would self-assess my work according to given criteria as I wrote



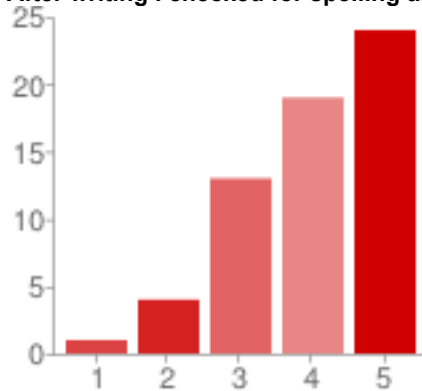
1 -	Never	3	5%
2		10	16%
3		15	25%
4		23	38%
5 -	All of the Time	10	16%

Never All of the Time

Post-Writing using pen and paper

This section will ask you questions about what you did in the post-writing stage

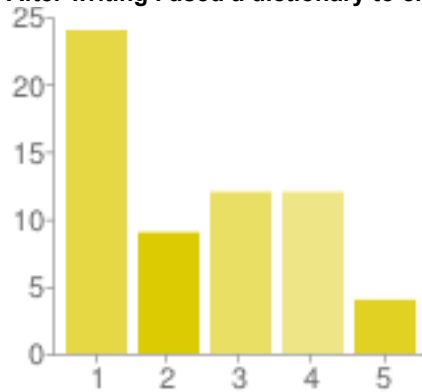
After writing I checked for spelling and punctuation mistakes



1 -	Never	1	2%
2		4	7%
3		13	21%
4		19	31%
5 -	All of the Time	24	39%

Never All of the Time

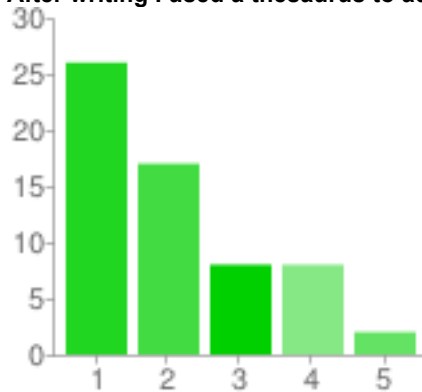
After writing I used a dictionary to check for mistakes



1 -	Never	24	39%
2		9	15%
3		12	20%
4		12	20%
5 -	All of the Time	4	7%

Never All of the Time

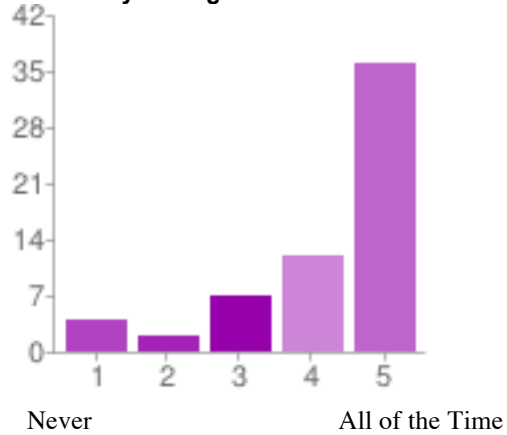
After writing I used a thesaurus to add variety to my writing



1 -	Never	26	43%
2		17	28%
3		8	13%
4		8	13%
5 -	All of the Time	2	3%

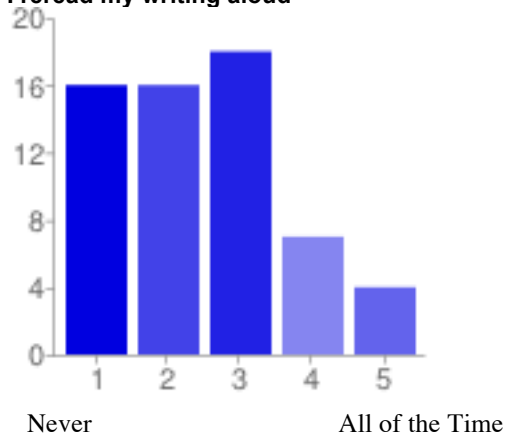
Never All of the Time

I reread my writing



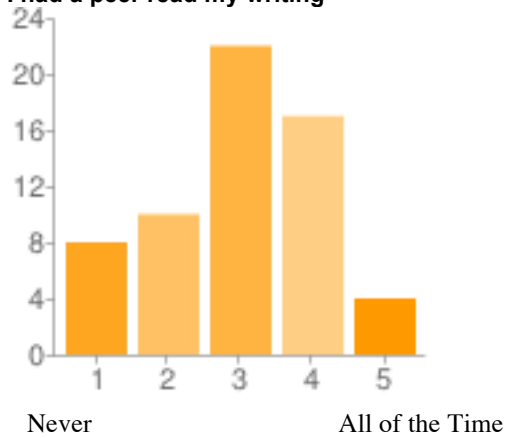
1 -	Never	4	7%
2		2	3%
3		7	11%
4		12	20%
5 -	All of the Time	36	59%

I reread my writing aloud



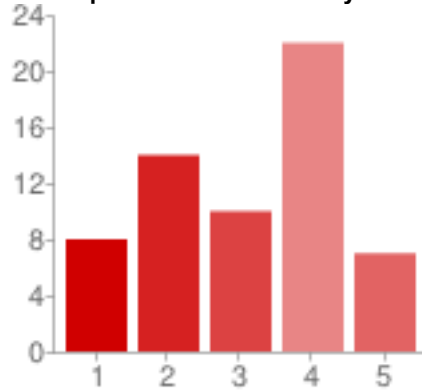
1 -	Never	16	26%
2		16	26%
3		18	30%
4		7	11%
5 -	All of the Time	4	7%

I had a peer read my writing



1 -	Never	8	13%
2		10	16%
3		22	36%
4		17	28%
5 -	All of the Time	4	7%

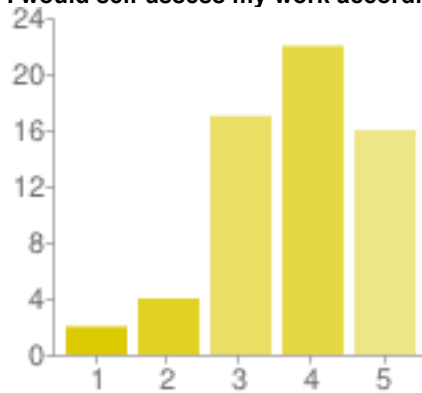
I had a parent or adult read my writing



1 -	Never	8	13%
2		14	23%
3		10	16%
4		22	36%
5 -	All of the Time	7	11%

Never All of the Time

I would self-assess my work according to the criteria given



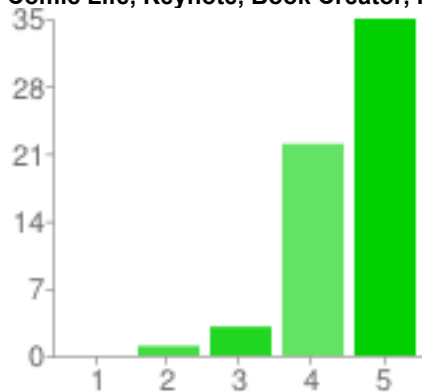
1 -	Never	2	3%
2		4	7%
3		17	28%
4		22	36%
5 -	All of the Time	16	26%

Never All of the Time

Section 2 - Writing using technology

In this section we will ask you to reflect on how you feel about the improvements of student writing with technology compared to without using technology. For your responses please pick 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, or 5 for strongly agree.

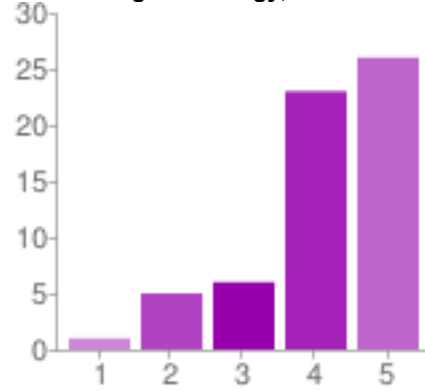
When using technology, I have more opportunities to present my ideas in a variety of ways (ie Comic Life, Keynote, Book Creator, Pages)



1 -	Strongly Disagree	0	0%
2		1	2%
3		3	5%
4		22	36%
5 -	Strongly Agree	35	57%

Strongly Disagree Strongly Agree

When using technology, I write more than using pen and paper

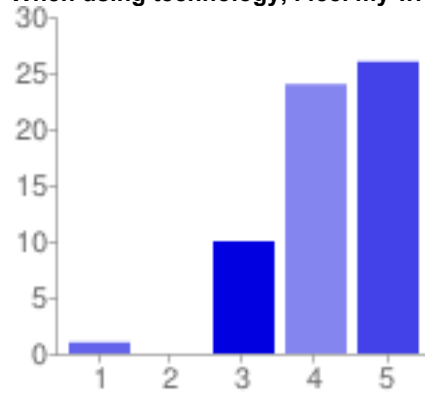


Strongly
Disagree

Strongly Agree

1 -	Strongly Disagree	1	2%
2		5	8%
3		6	10%
4		23	38%
5 -	Strongly Agree	26	43%

When using technology, I feel my writing is more appealing to my audience

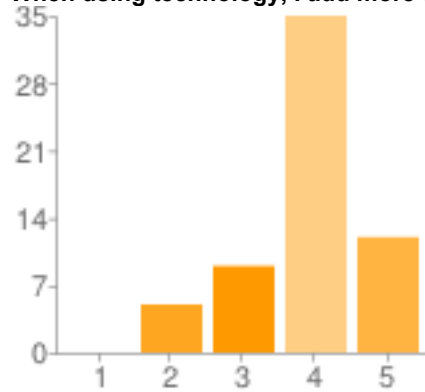


Strongly
Disagree

Strongly Agree

1 -	Strongly Disagree	1	2%
2		0	0%
3		10	16%
4		24	39%
5 -	Strongly Agree	26	43%

When using technology, I add more details and information to my writing

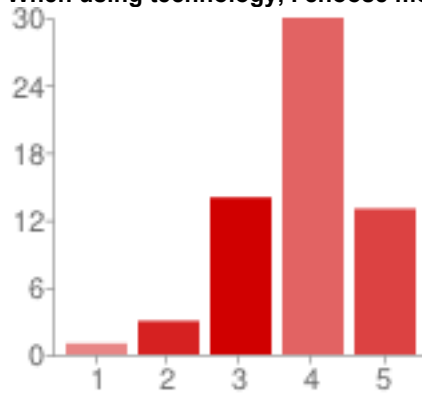


Strongly
Disagree

Strongly Agree

1 -	Strongly Disagree	0	0%
2		5	8%
3		9	15%
4		35	57%
5 -	Strongly Agree	12	20%

When using technology, I choose more descriptive words

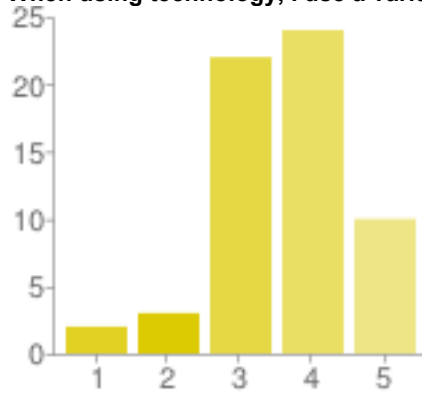


Strongly
Disagree

Strongly Agree

1 -	Strongly Disagree	1	2%
2		3	5%
3		14	23%
4		30	49%
5 -	Strongly Agree	13	21%

When using technology, I use a variety of sentences

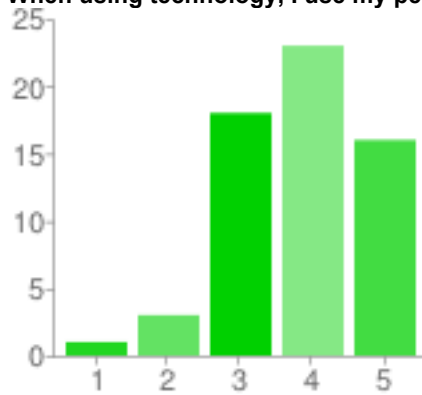


Strongly
Disagree

Strongly Agree

1 -	Strongly Disagree	2	3%
2		3	5%
3		22	36%
4		24	39%
5 -	Strongly Agree	10	16%

When using technology, I use my personal style to make my writing unique

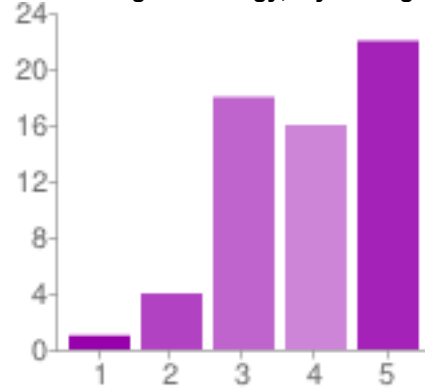


Strongly
Disagree

Strongly Agree

1 -	Strongly Disagree	1	2%
2		3	5%
3		18	30%
4		23	38%
5 -	Strongly Agree	16	26%

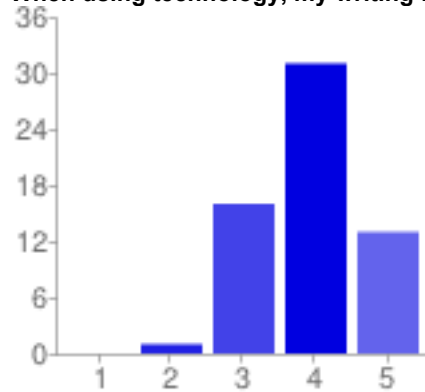
When using technology, my writing is organized into paragraphs



1 - Strongly Disagree	1	2%
2	4	7%
3	18	30%
4	16	26%
5 - Strongly Agree	22	36%

Strongly Disagree Strongly Agree

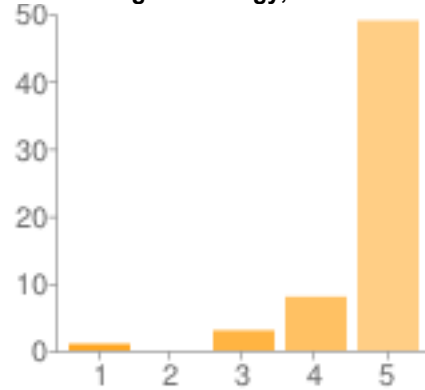
When using technology, my writing follows a sequence my audience can understand



1 - Strongly Disagree	0	0%
2	1	2%
3	16	26%
4	31	51%
5 - Strongly Agree	13	21%

Strongly Disagree Strongly Agree

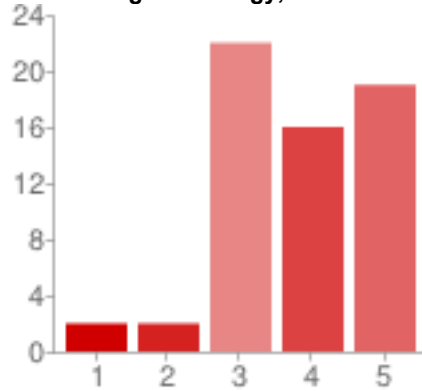
When using technology, I find it easier to correct spelling and grammar mistakes



1 - Strongly Disagree	1	2%
2	0	0%
3	3	5%
4	8	13%
5 - Strongly Agree	49	80%

Strongly Disagree Strongly Agree

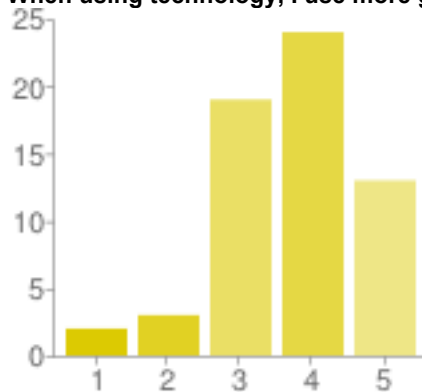
When using technology, I find it easier to come up with ideas to write



1 - Strongly Disagree	2	3%
2	2	3%
3	22	36%
4	16	26%
5 - Strongly Agree	19	31%

Strongly Disagree Strongly Agree

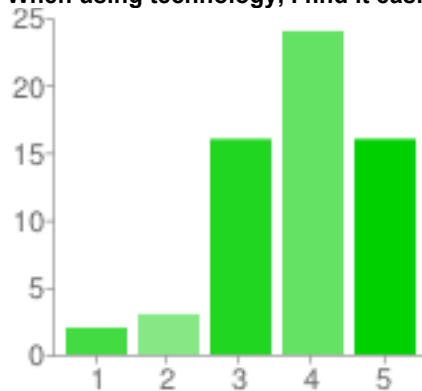
When using technology, I use more graphic organizers



1 - Strongly Disagree	2	3%
2	3	5%
3	19	31%
4	24	39%
5 - Strongly Agree	13	21%

Strongly Disagree Strongly Agree

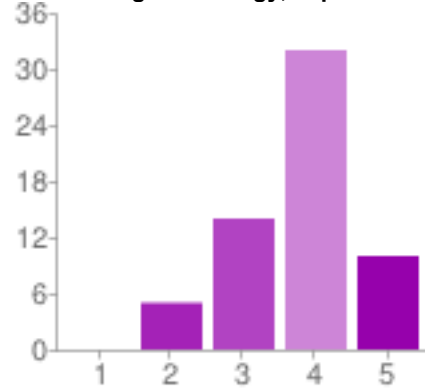
When using technology, I find it easier to put my ideas into written words



1 - Strongly Disagree	2	3%
2	3	5%
3	16	26%
4	24	39%
5 - Strongly Agree	16	26%

Strongly Disagree Strongly Agree

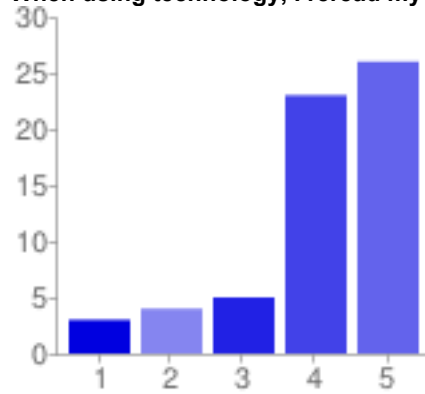
When using technology, I spend more time adding ideas and information



1 - Strongly Disagree	0	0%
2	5	8%
3	14	23%
4	32	52%
5 - Strongly Agree	10	16%

Strongly Disagree Strongly Agree

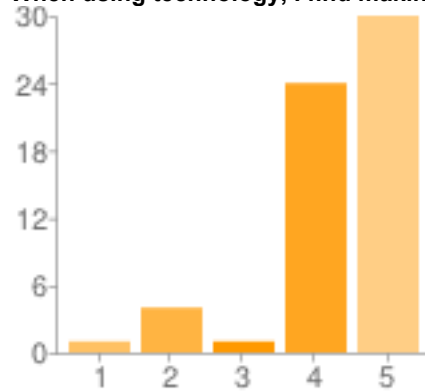
When using technology, I reread my writing often



1 - Strongly Disagree	3	5%
2	4	7%
3	5	8%
4	23	38%
5 - Strongly Agree	26	43%

Strongly Disagree Strongly Agree

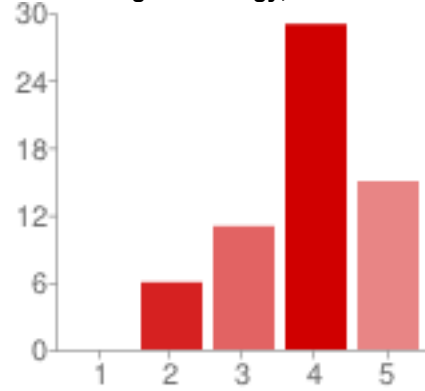
When using technology, I find making changes to my writing is easier



1 - Strongly Disagree	1	2%
2	4	7%
3	1	2%
4	24	39%
5 - Strongly Agree	30	49%

Strongly Disagree Strongly Agree

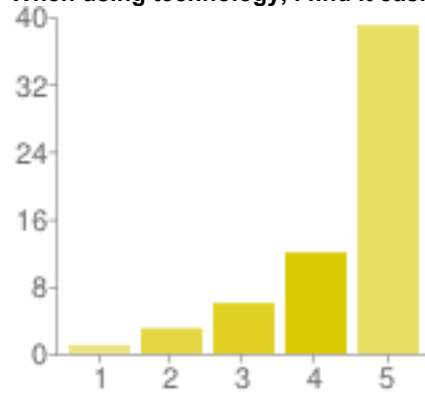
When using technology, I make changes to my writing as I write



1 - Strongly Disagree	0	0%
2	6	10%
3	11	18%
4	29	48%
5 - Strongly Agree	15	25%

Strongly Disagree Strongly Agree

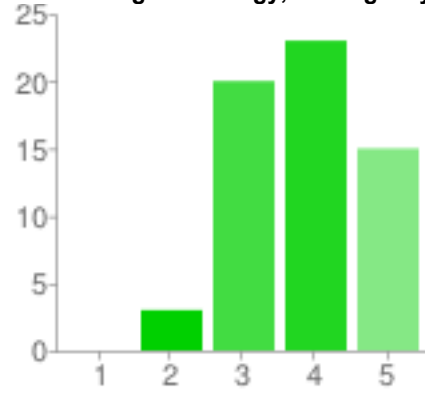
When using technology, I find it easier to find my mistakes



1 - Strongly Disagree	1	2%
2	3	5%
3	6	10%
4	12	20%
5 - Strongly Agree	39	64%

Strongly Disagree Strongly Agree

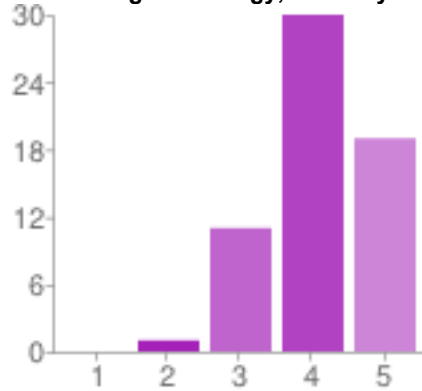
When using technology, I change my writing so my thoughts flow smoothly



1 - Strongly Disagree	0	0%
2	3	5%
3	20	33%
4	23	38%
5 - Strongly Agree	15	25%

Strongly Disagree Strongly Agree

When using technology, I find my ideas are easier to read

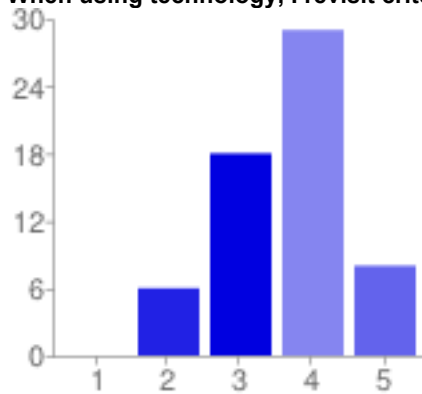


Strongly
Disagree

Strongly Agree

1 -	Strongly Disagree	0	0%
2		1	2%
3		11	18%
4		30	49%
5 -	Strongly Agree	19	31%

When using technology, I revisit criteria as I write

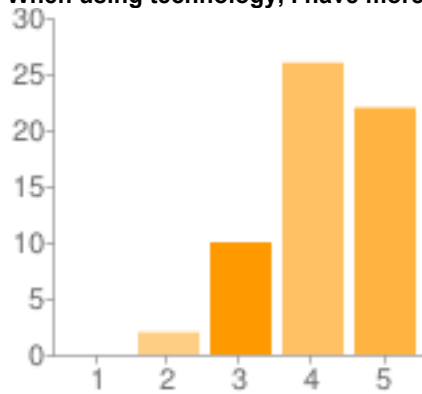


Strongly
Disagree

Strongly Agree

1 -	Strongly Disagree	0	0%
2		6	10%
3		18	30%
4		29	48%
5 -	Strongly Agree	8	13%

When using technology, I have more opportunities to share my writing with others

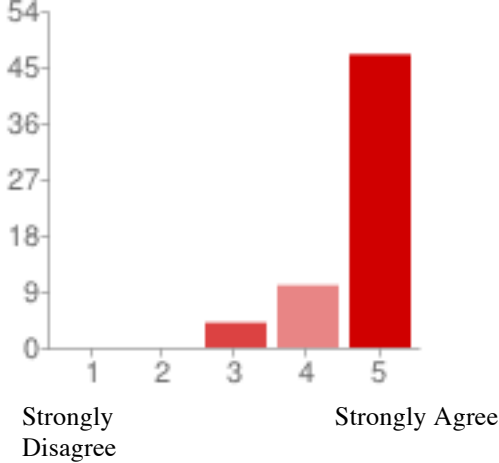


Strongly
Disagree

Strongly Agree

1 -	Strongly Disagree	0	0%
2		2	3%
3		10	16%
4		26	43%
5 -	Strongly Agree	22	36%

When using technology, I can find information easier



1 -	Strongly Disagree	0	0%
2		0	0%
3		4	7%
4		10	16%
5 -	Strongly Agree	47	77%

WWP 2012/13 Cold Write Data

Toni Thompson

WWP All Students

Page 2	Fall and Spring Performance of All Grade 6nchor
Page 3	All Grade 6 Gender Male and Female
Page 4	Comparison of Gender for All Grade 6
Page 5	SPED of All Grade 6
Page 6	Fall and Spring Performance of Aboriginal Students
Page 7	Comparison of Gender of Aboriginal Students

WWP MacBooks

Page 8	Fall and Spring Performance of MacBooks
Page 9	MacBooks Gender Male and Female
Page 10	Comparison of Gender for MacBooks
Page 11	SPED of MacBooks
Page 12	Fall and Spring Performance of Aboriginal Students using MacBooks
Page 13	Comparison of Gender of Aboriginal Students using MacBooks

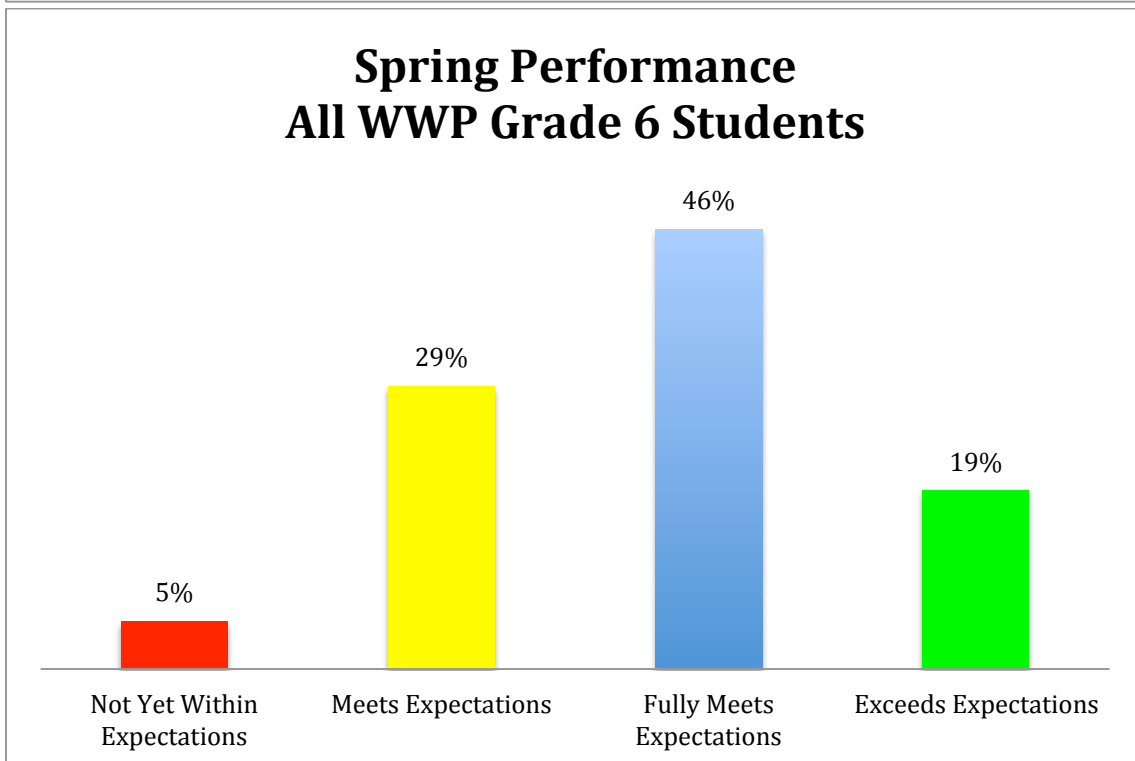
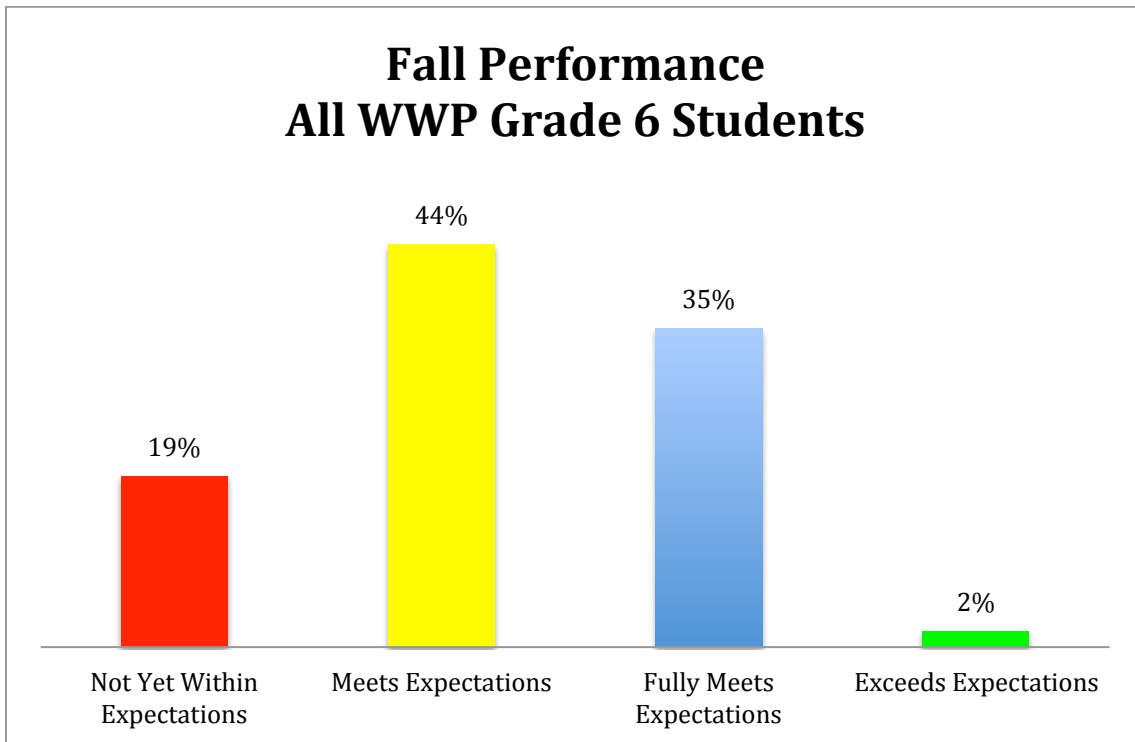
WWP iPads

Page 14	Fall and Spring Performance of iPads
Page 15	IPads Gender Male and Female
Page 16	Comparison of Gender for iPads
Page 17	SPED of iPads
Page 18	Fall and Spring Performance of Aboriginal Students using iPads
Page 19	Comparison of Gender of Aboriginal Students using iPads

Comparison of Data

Page 20	Comparing Spring and Fall
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**Data for WWP All Grade 6 Students
Who Completed a Fall and Spring Sample (399)**



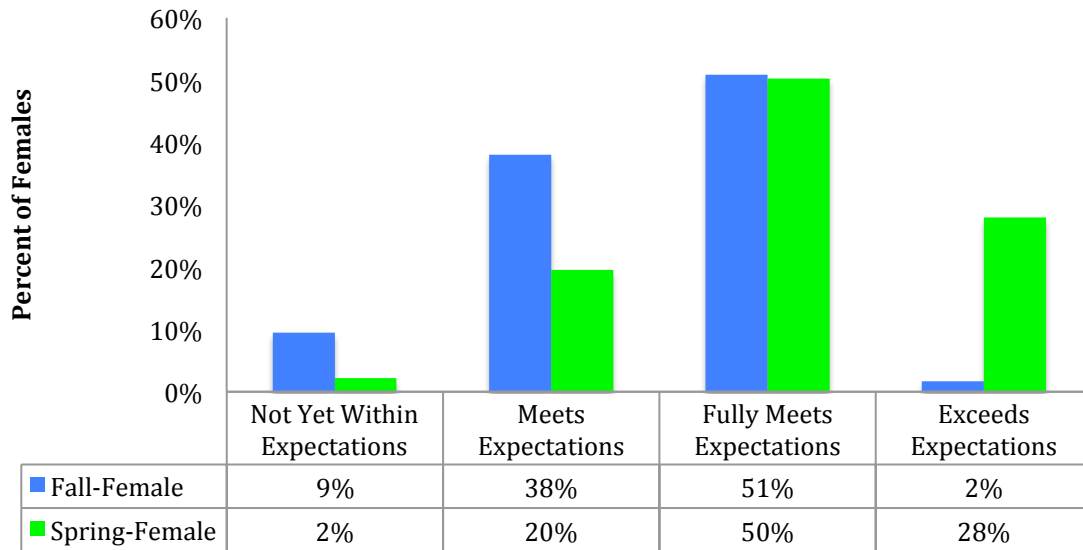
Based on the BC Performance Standards



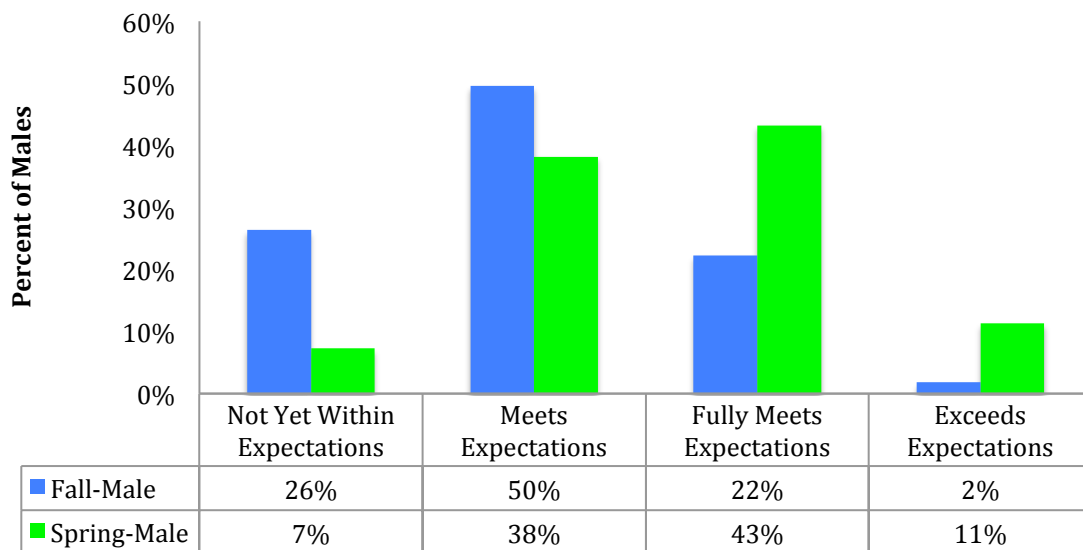
Meeting or Exceeding	Fall 81%	Spring 95%
Fully or Exceeding	Fall 37%	Spring 65%

Data for WWP All Grade 6 Students
Gender: Females – 179 Males – 220

Performance Females-WWP Grade 6

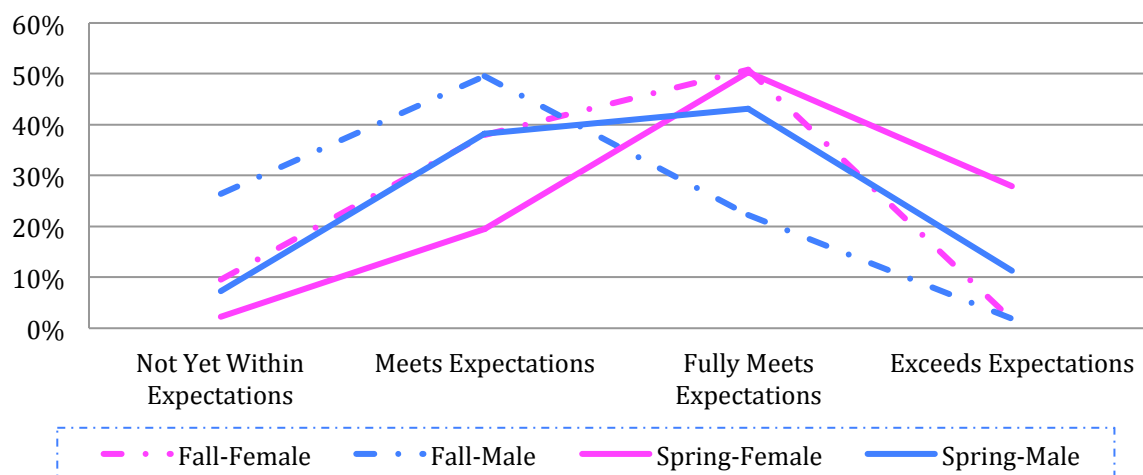


Performance Males-WWP Grade 6

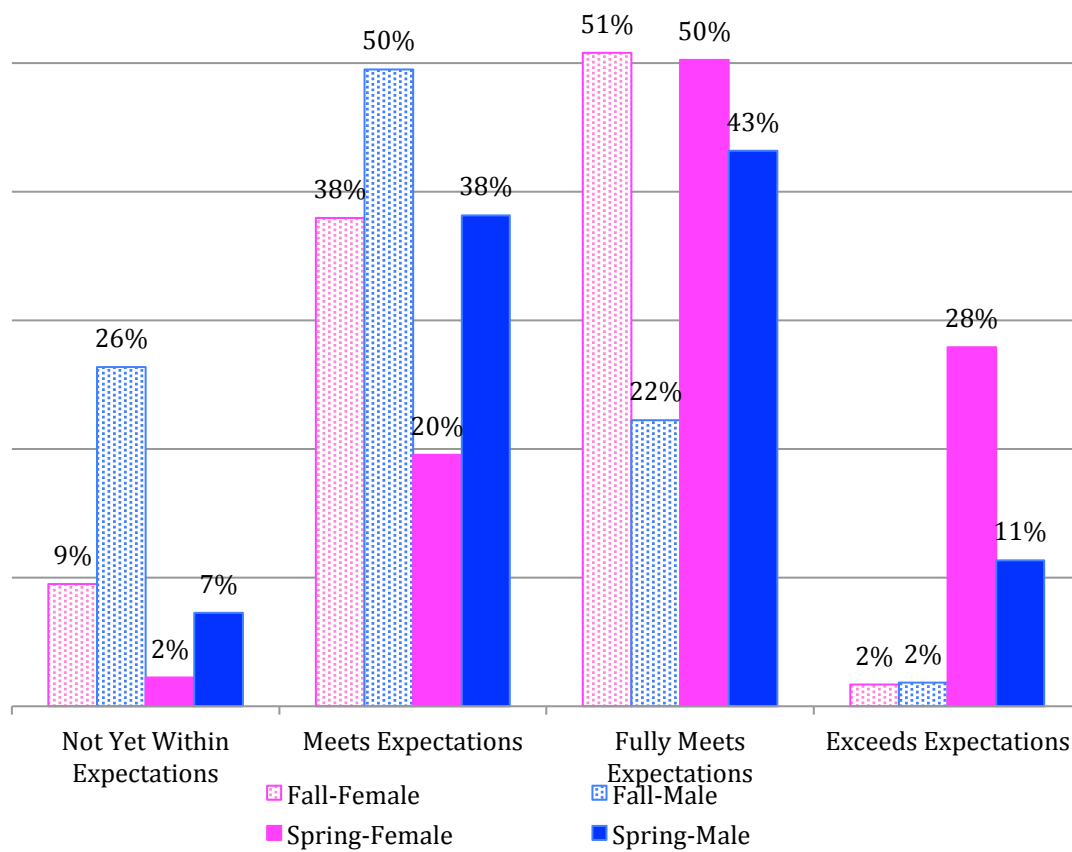


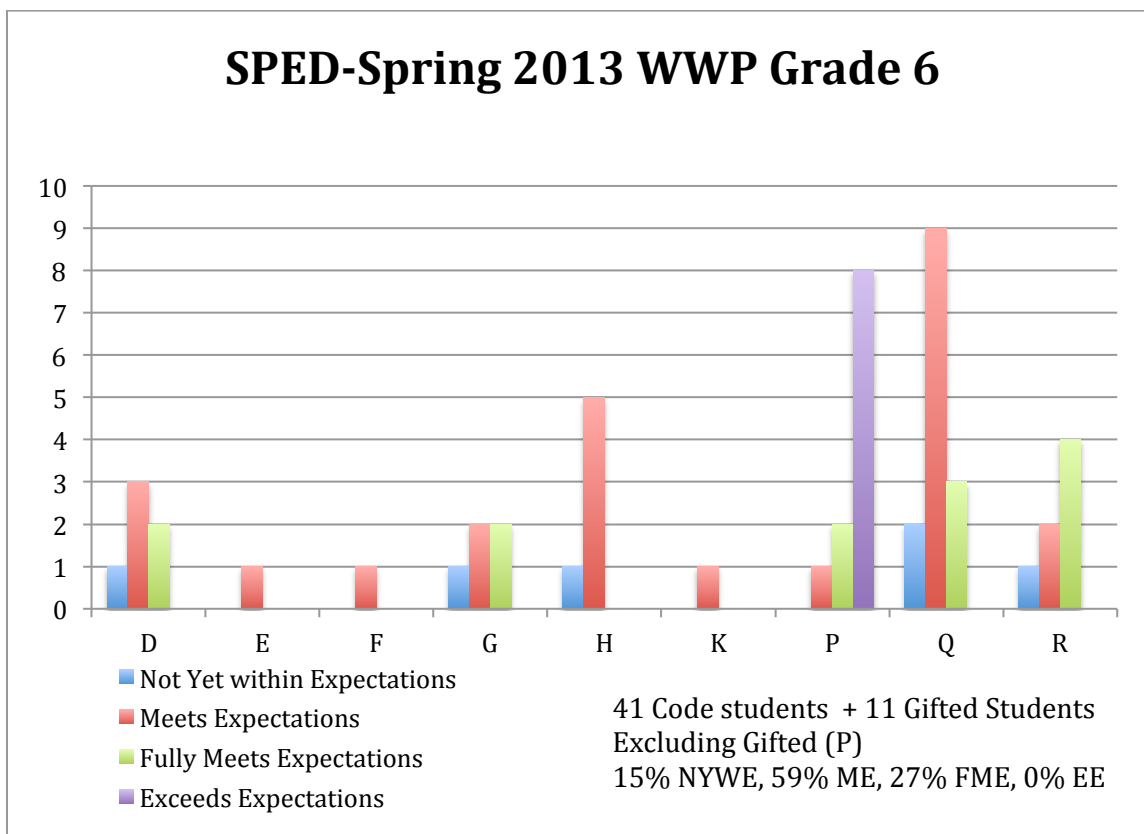
Data for WWP All Grade 6 Students
Comparison of Gender: Females – 179 Males – 220

Comparison of Gender Fall-Spring 2012/2013



Gender Comparison 2012/13





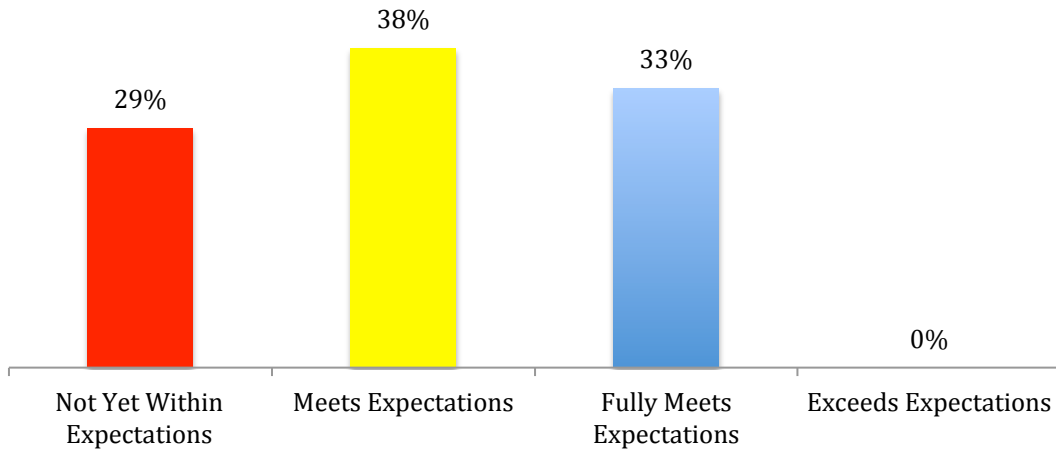
Code	Category Title
A	Physically Dependent 1.19 *
B	Deaf/Blind 1.19 *
C	Moderate to Profound Intellectual Disability
D	Physical Disability or Chronic Health Impairment 1.18
E	Visual Impairment 1.18
F	Deaf or Hard of Hearing 1.18
G	Autism 1.18
H	Intensive Behavior Intervention/Serious Mental Illness 1.16
K	Mild Intellectual Disability 1.17
P	Gifted 1.32
Q	Learning Disability 1.17
R	Moderate Behavior Support/Mental Illness 1.17

* No students from category in grade 6

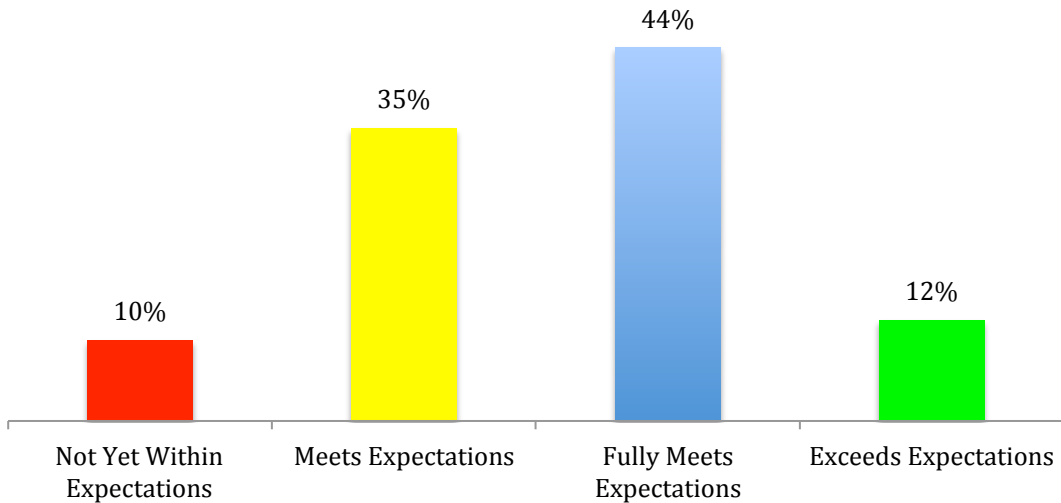


Data for WWP All Grade 6 Students
Aboriginal WWP Students 84 Total 47 Female 37 Male

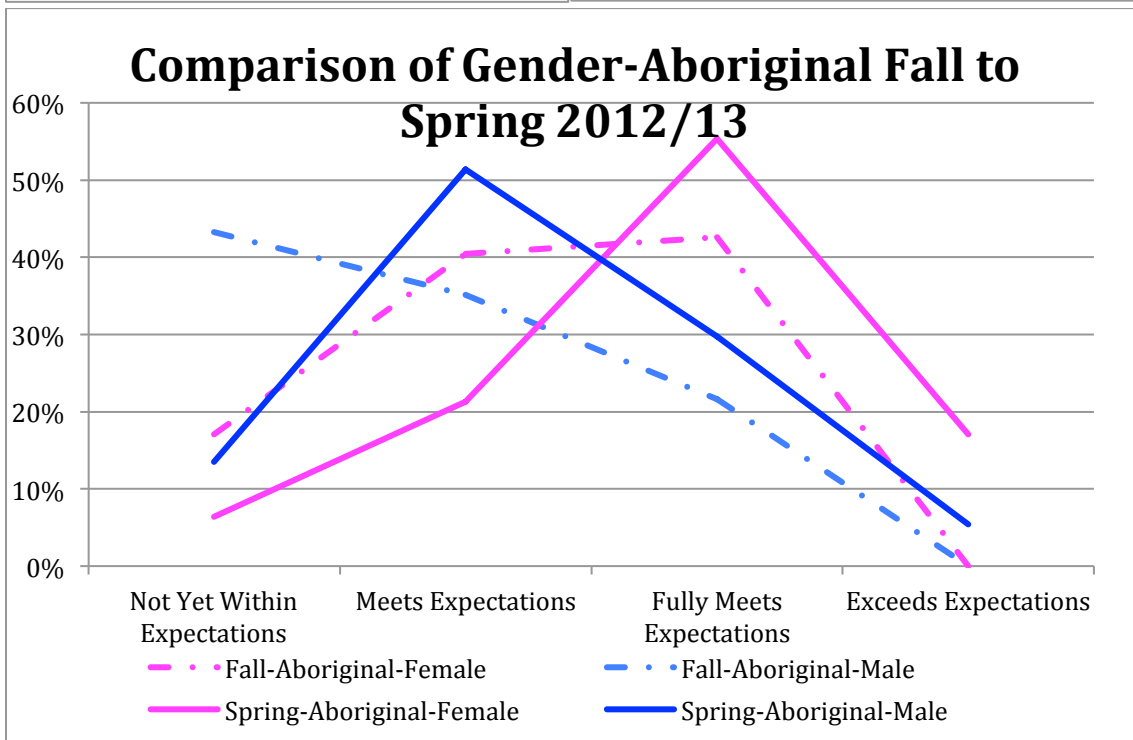
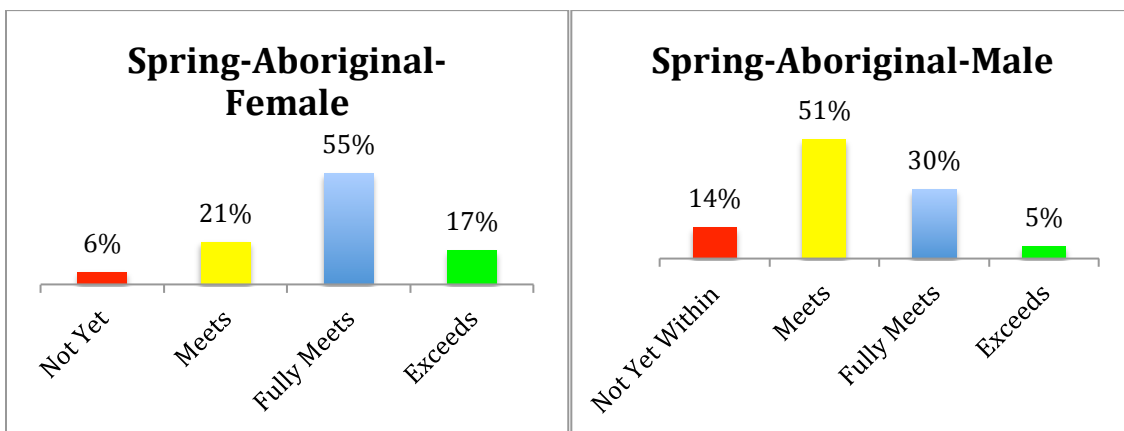
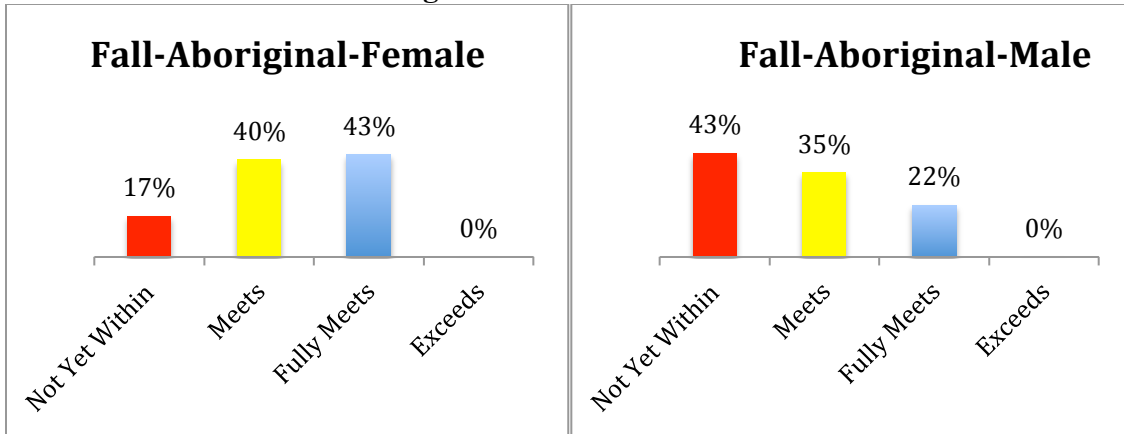
Fall-Aboriginal Students



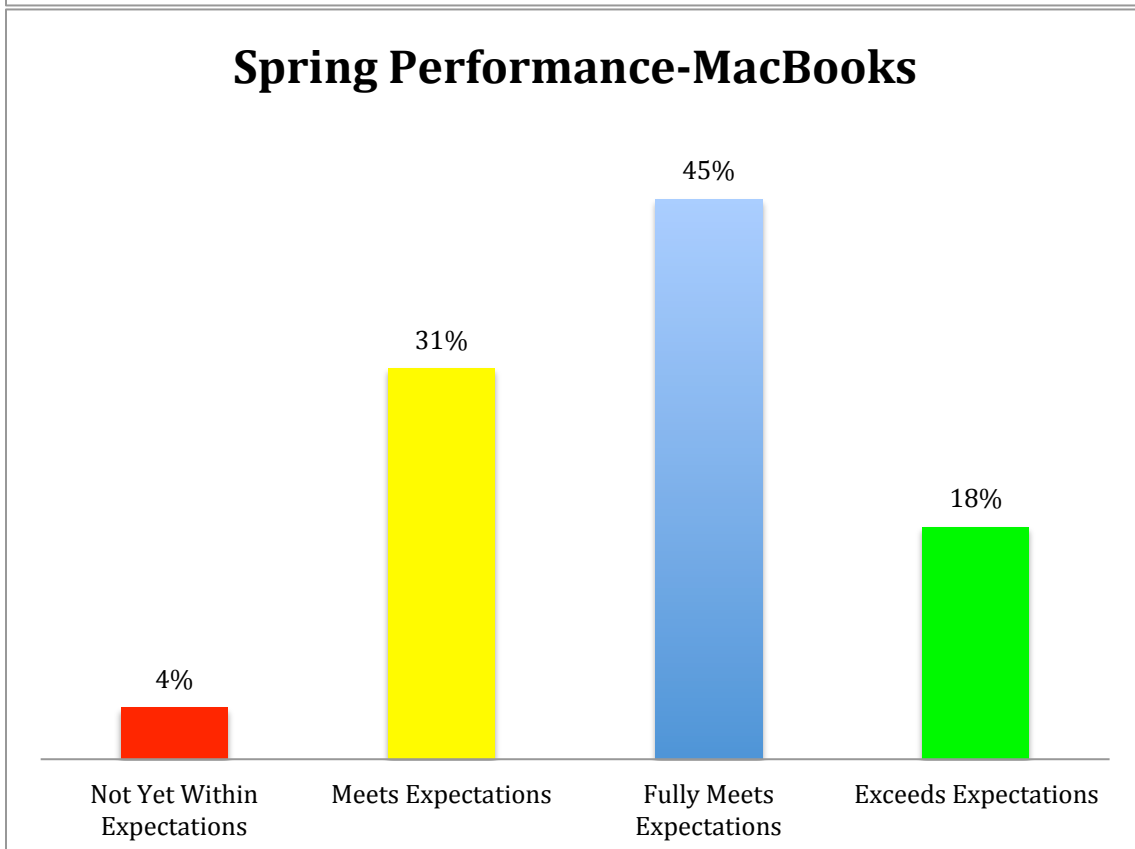
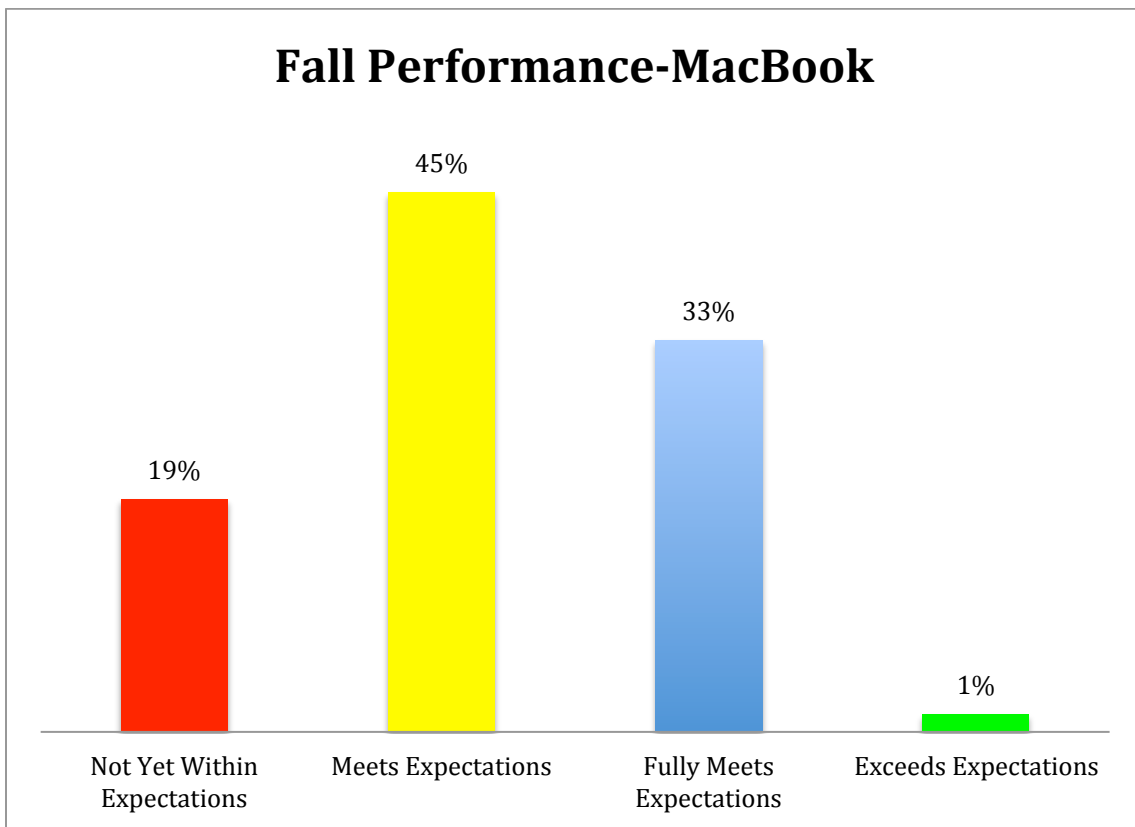
Spring-Aboriginal Students



Data for WWP All Grade 6 Students
Gender Aboriginal 84 Total 47 Female 37 Male

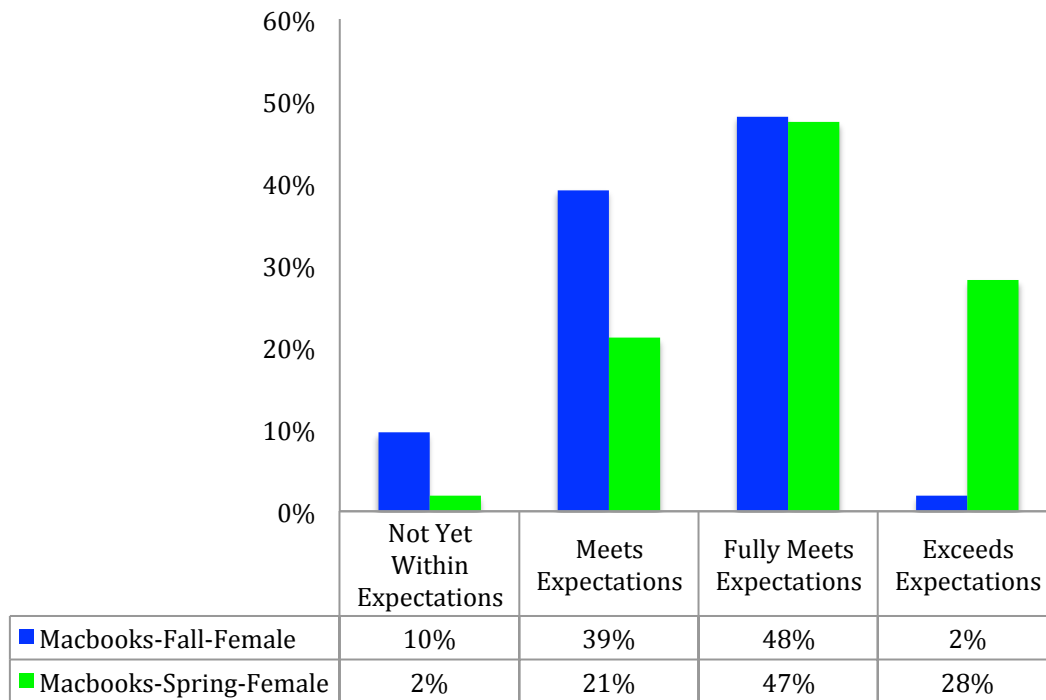


**Data for WWP MacBooks Grade 6 Students
Who Completed a Fall and Spring Sample (335)**

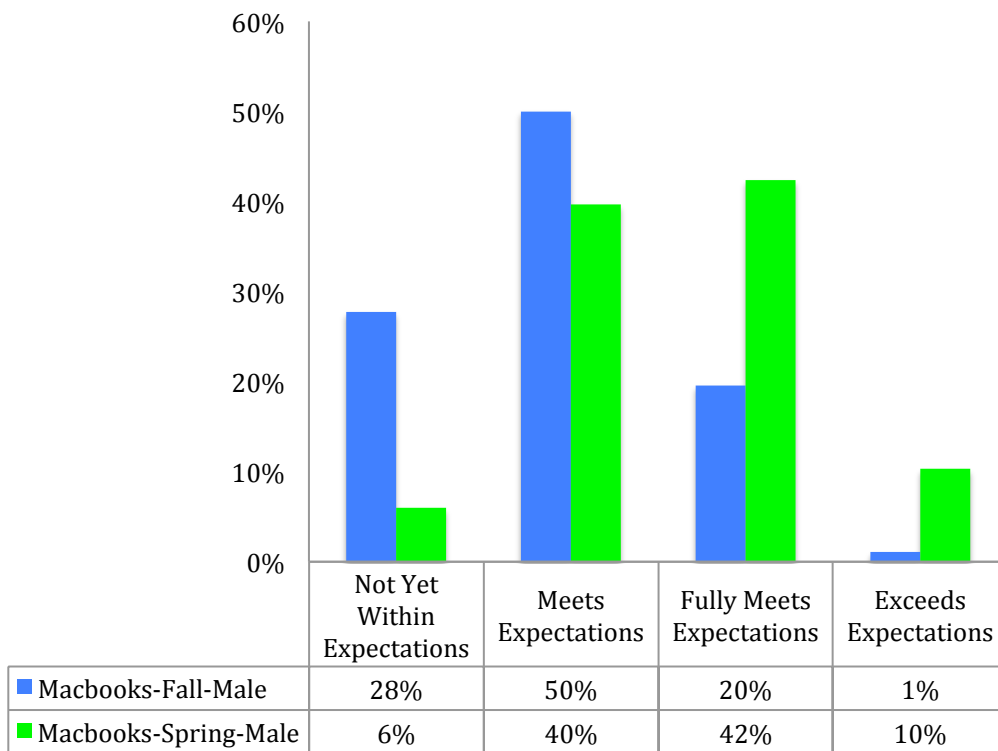


Data for WWP MacBook Grade 6 Students
Gender MacBook: Females – 154 Males – 181

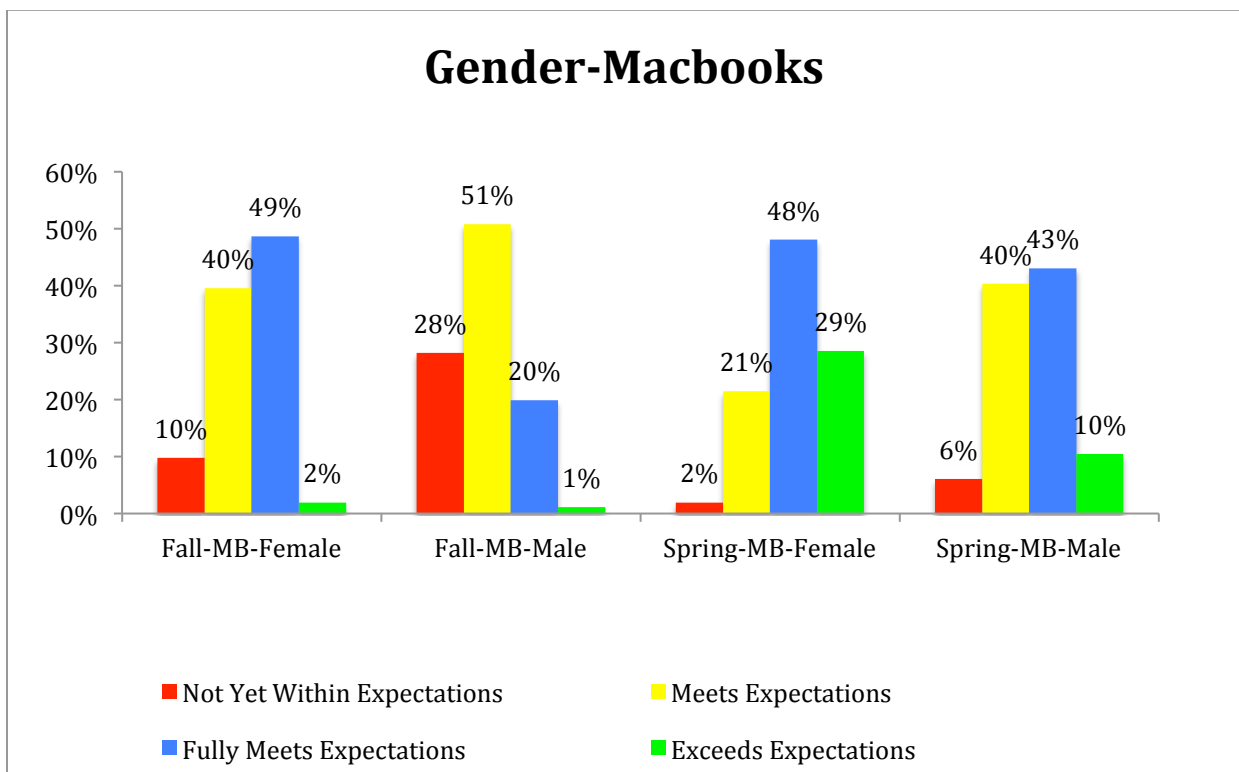
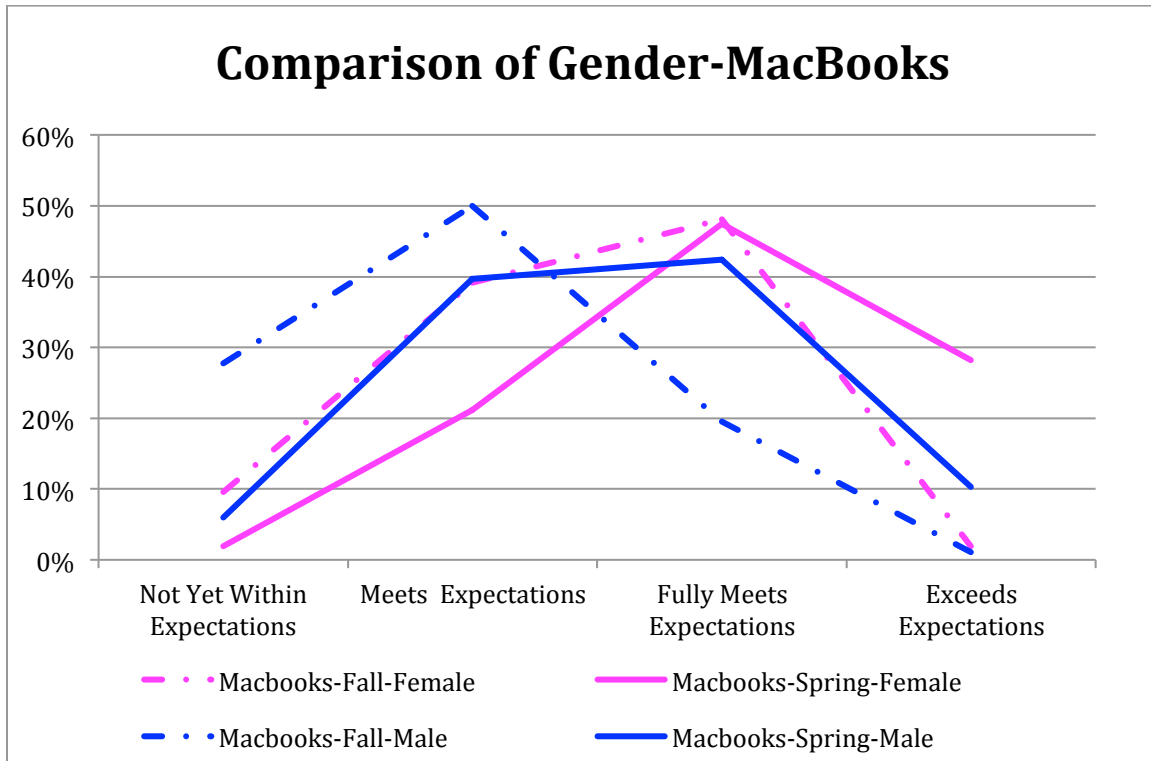
Performance Females-MacBooks



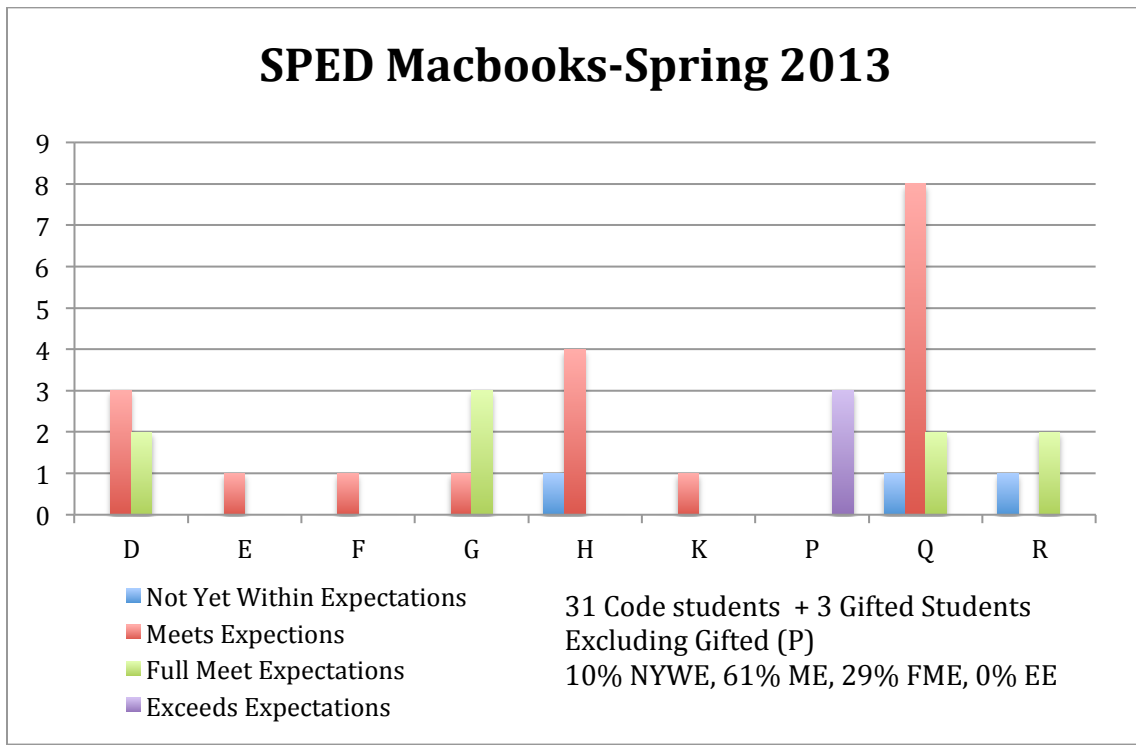
Performance Males-MacBooks



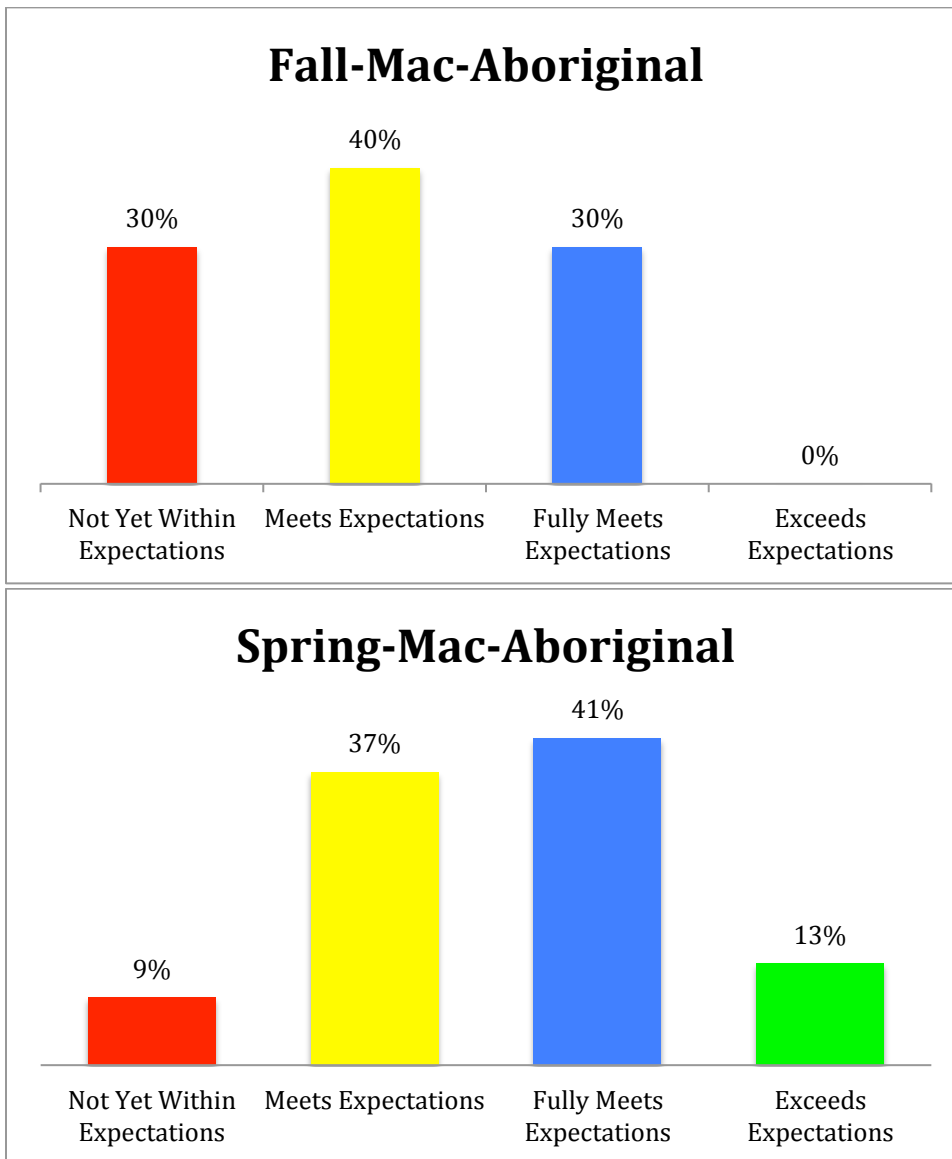
Data for WWP MacBook Grade 6 Students
Gender MacBook: Females – 154 Males – 181



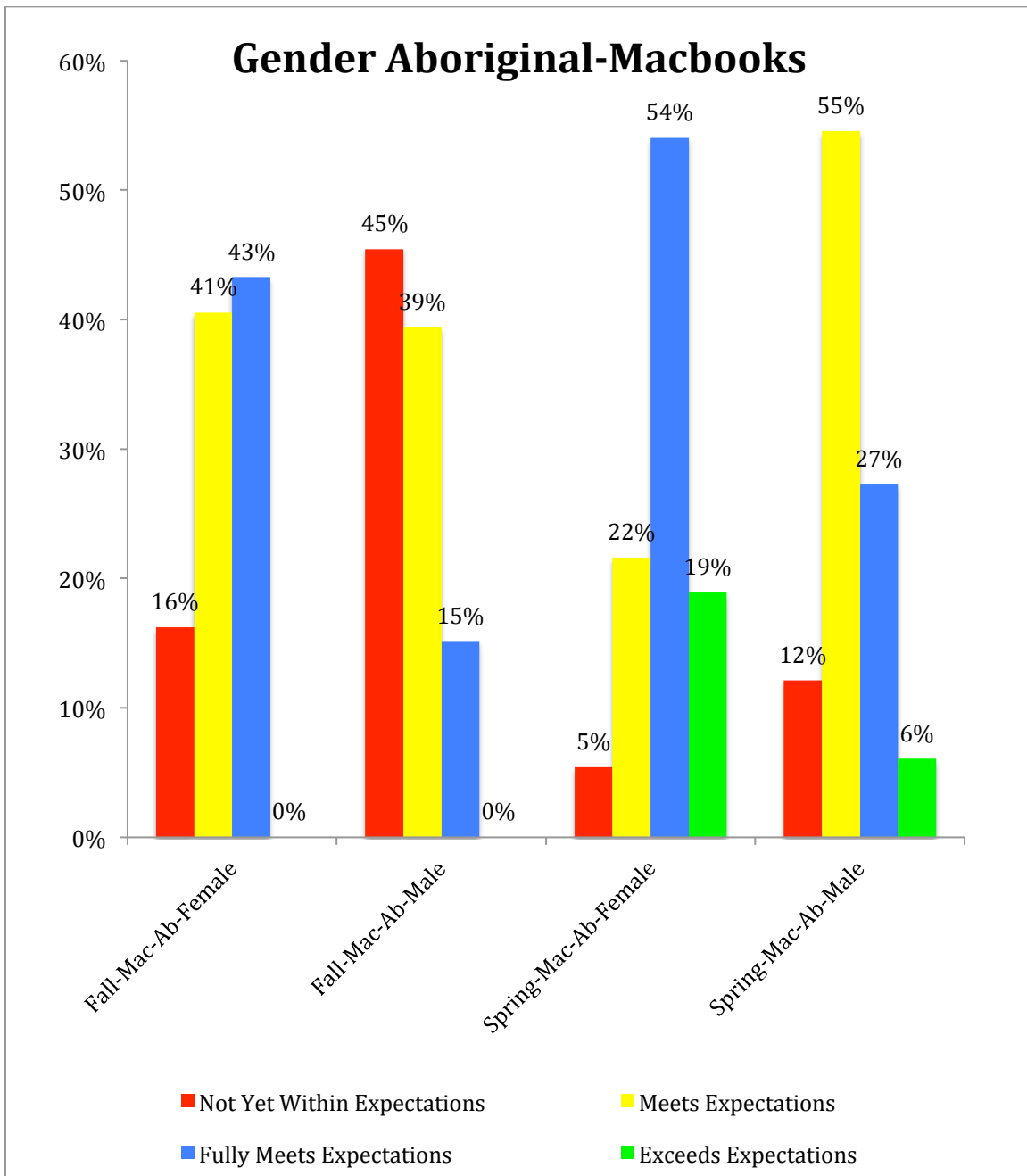
**Data for WWP MacBook Grade 6 Students
31 Code students + 3 Gifted Students**



Data for WWP MacBook Grade 6 Students
Aboriginal WWP MacBook Students 70 Total 37 Female 33 Male

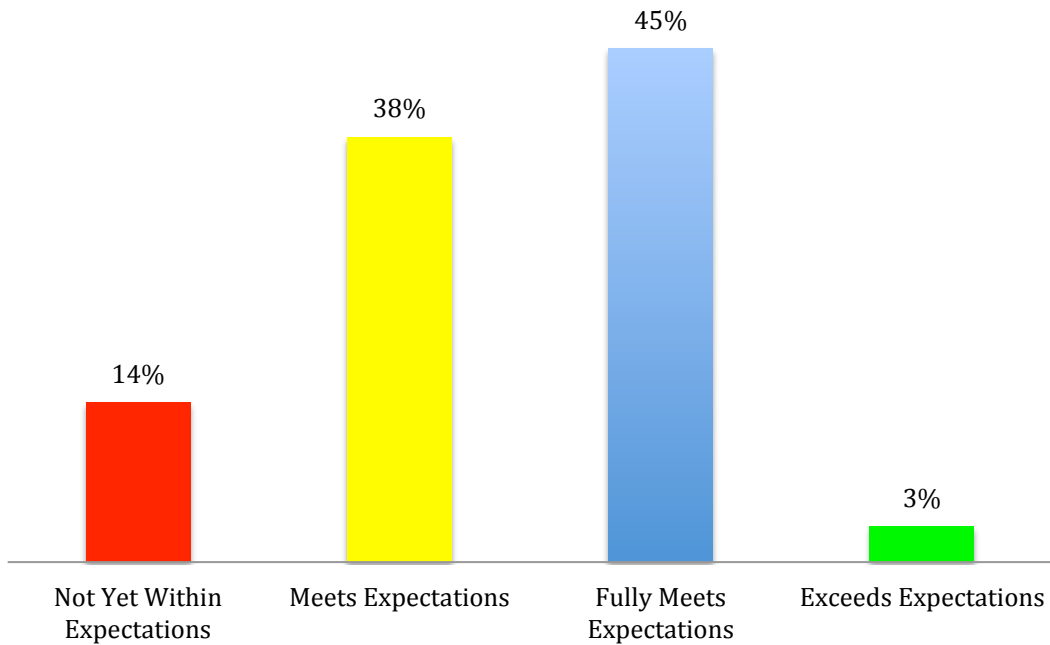


Data for WWP MacBook Grade 6 Students
Aboriginal WWP MacBook Students 70 Total 37 Female 33 Male

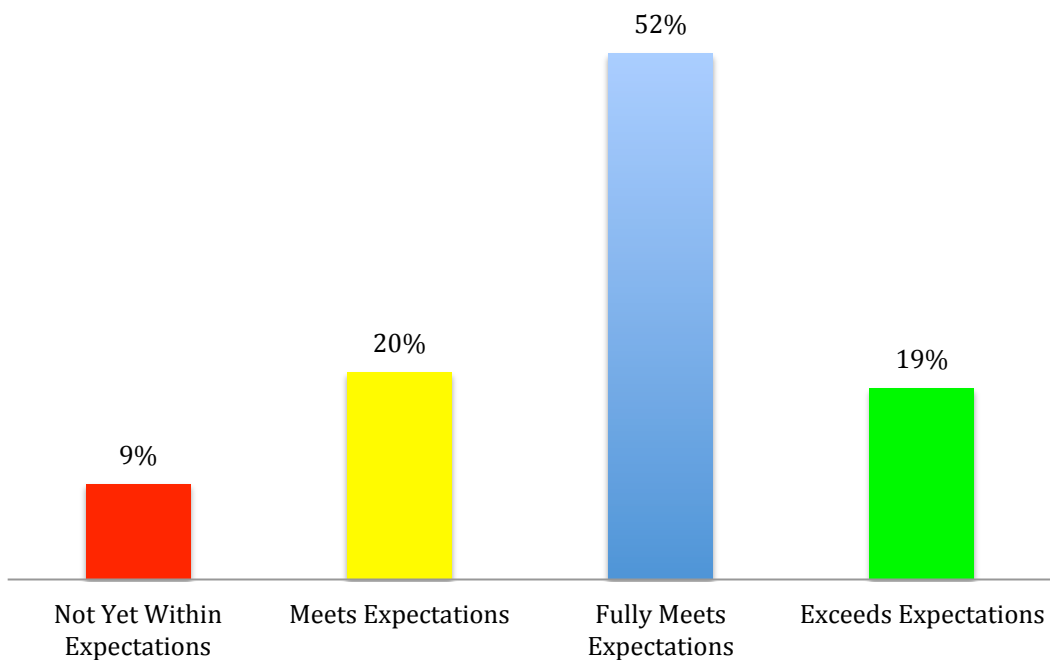


**Data for WWP All Grade 6 iPad Students
Who Completed a Fall and Spring Sample (64)**

Fall Performance-Ipad

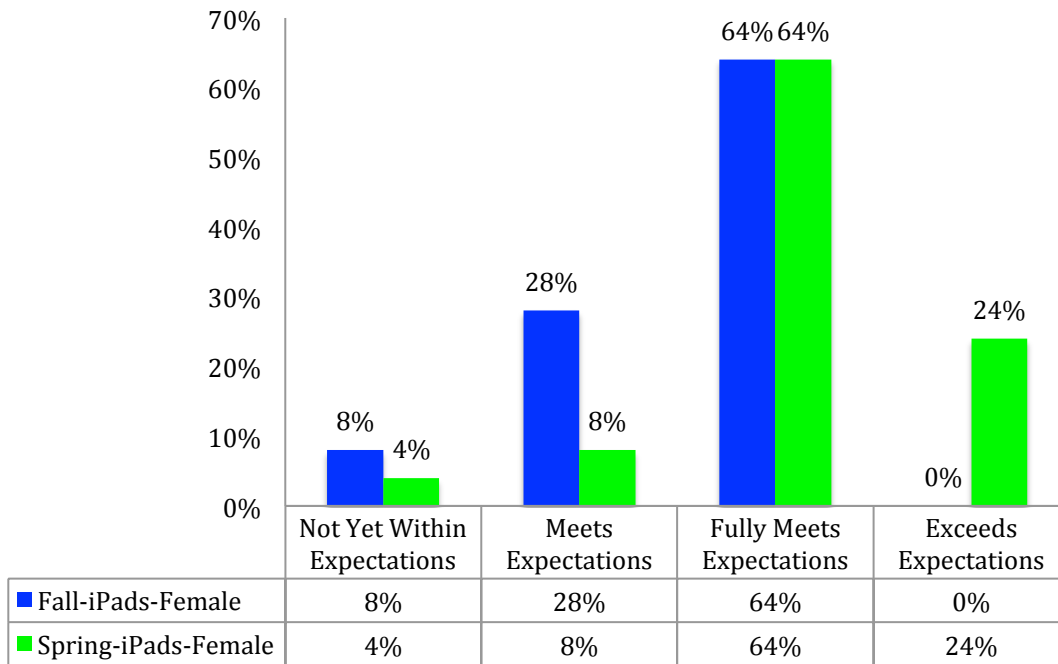


Spring Performance-Ipad

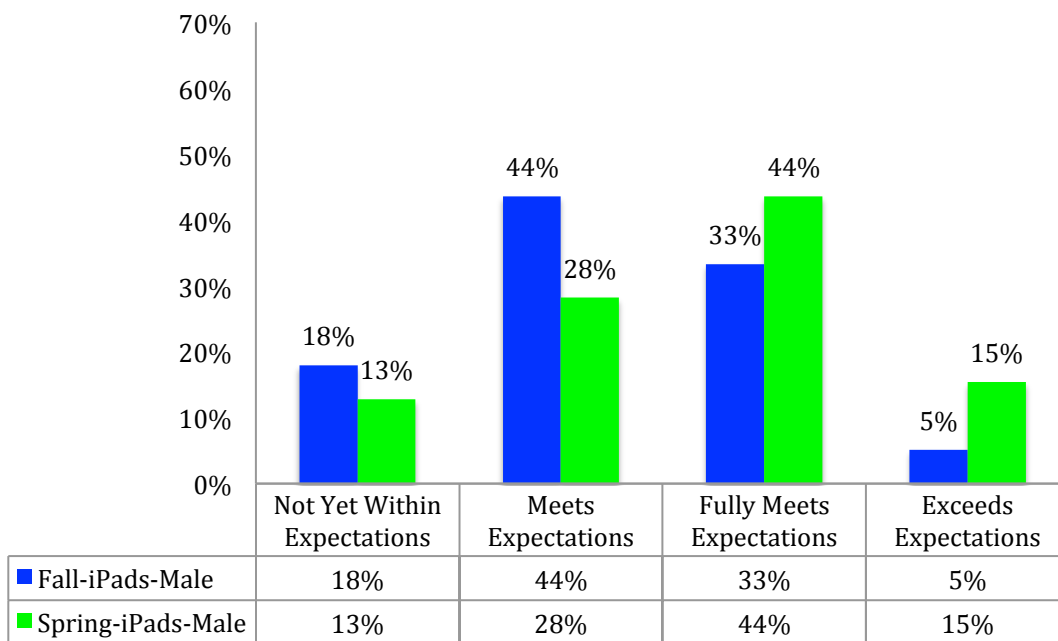


Data for WWP All Grade 6 iPad Students
Gender iPads: Females – 15 Males – 39

Performance of Female-iPads

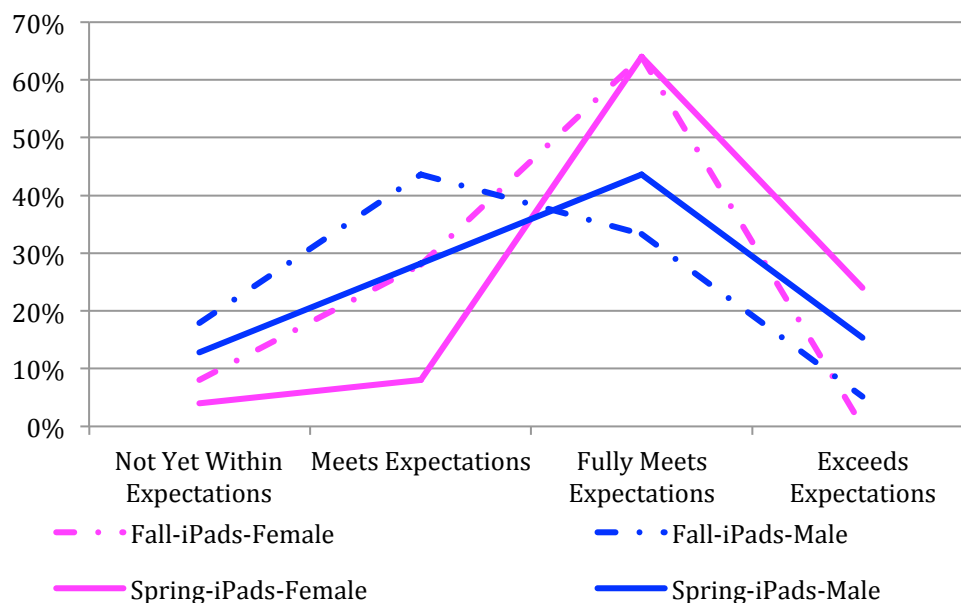


Performance Male-iPads

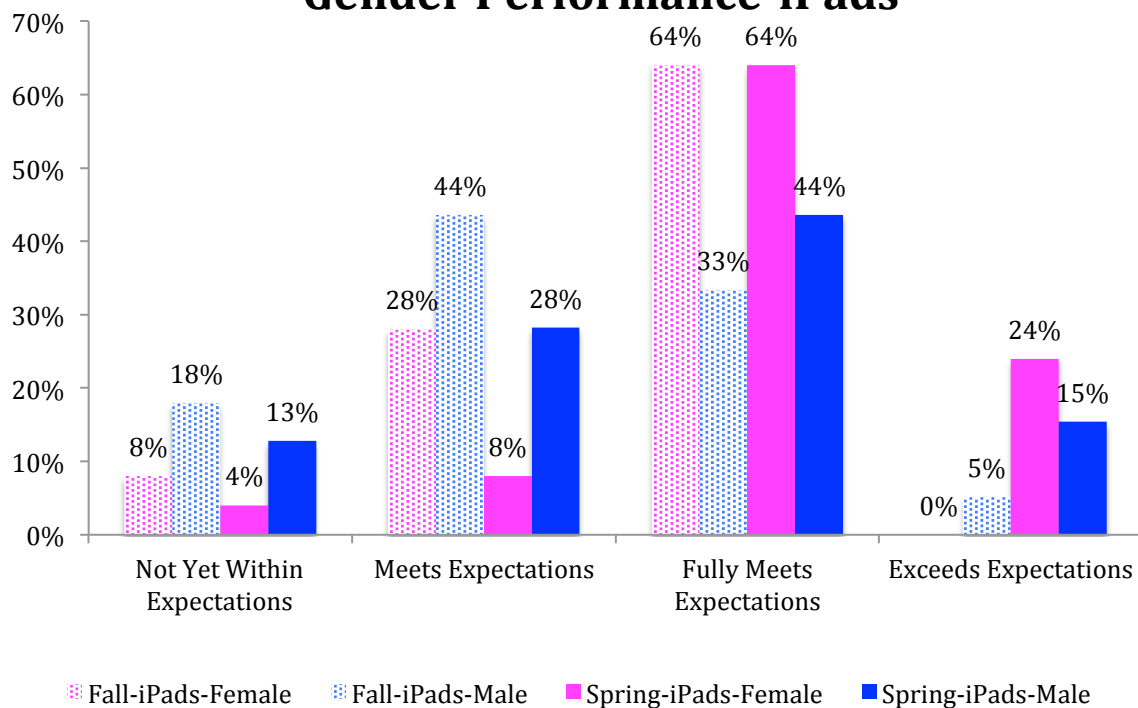


Data for WWP All Grade 6 iPad Students
Gender iPads: Females – 15 Males – 39

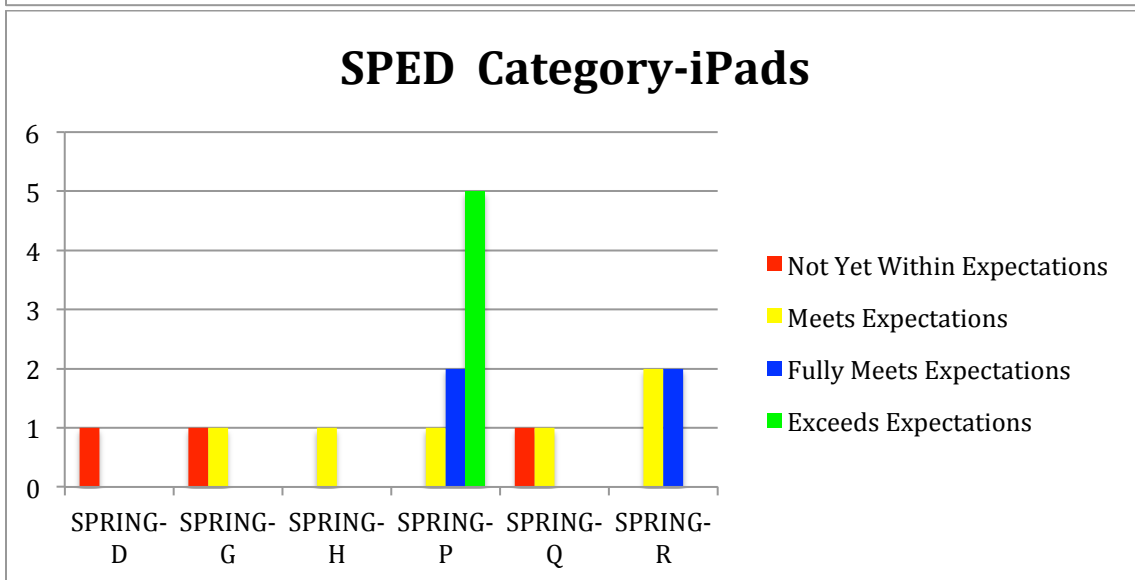
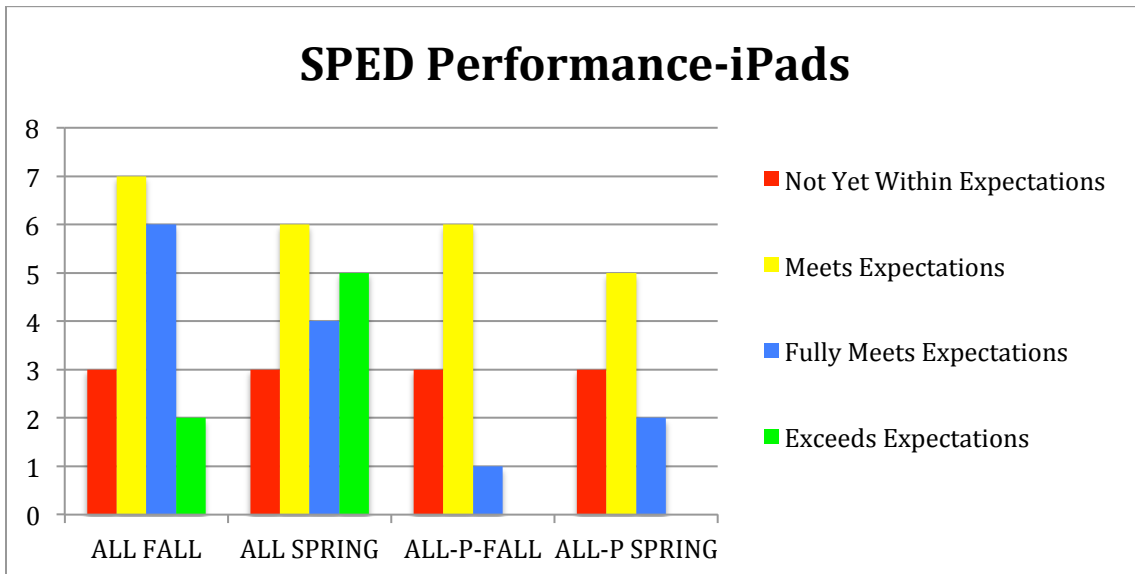
Comparison of Gender Samples-iPad



Gender Performance-iPads



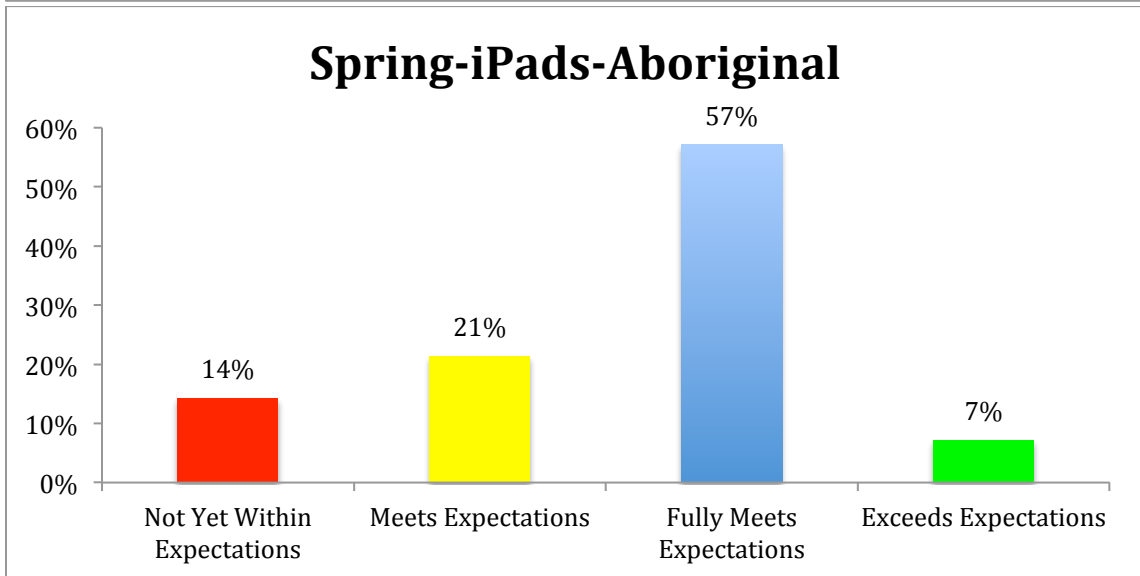
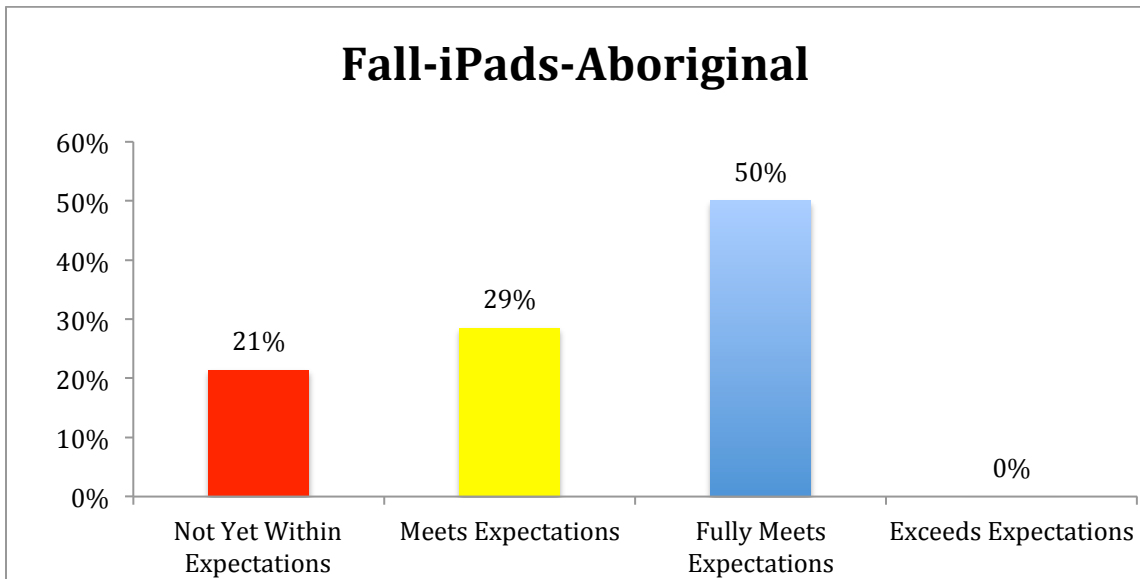
Data for WWP All Grade 6 iPad Students
SPED iPads: 10 Coded + 8 Gifted



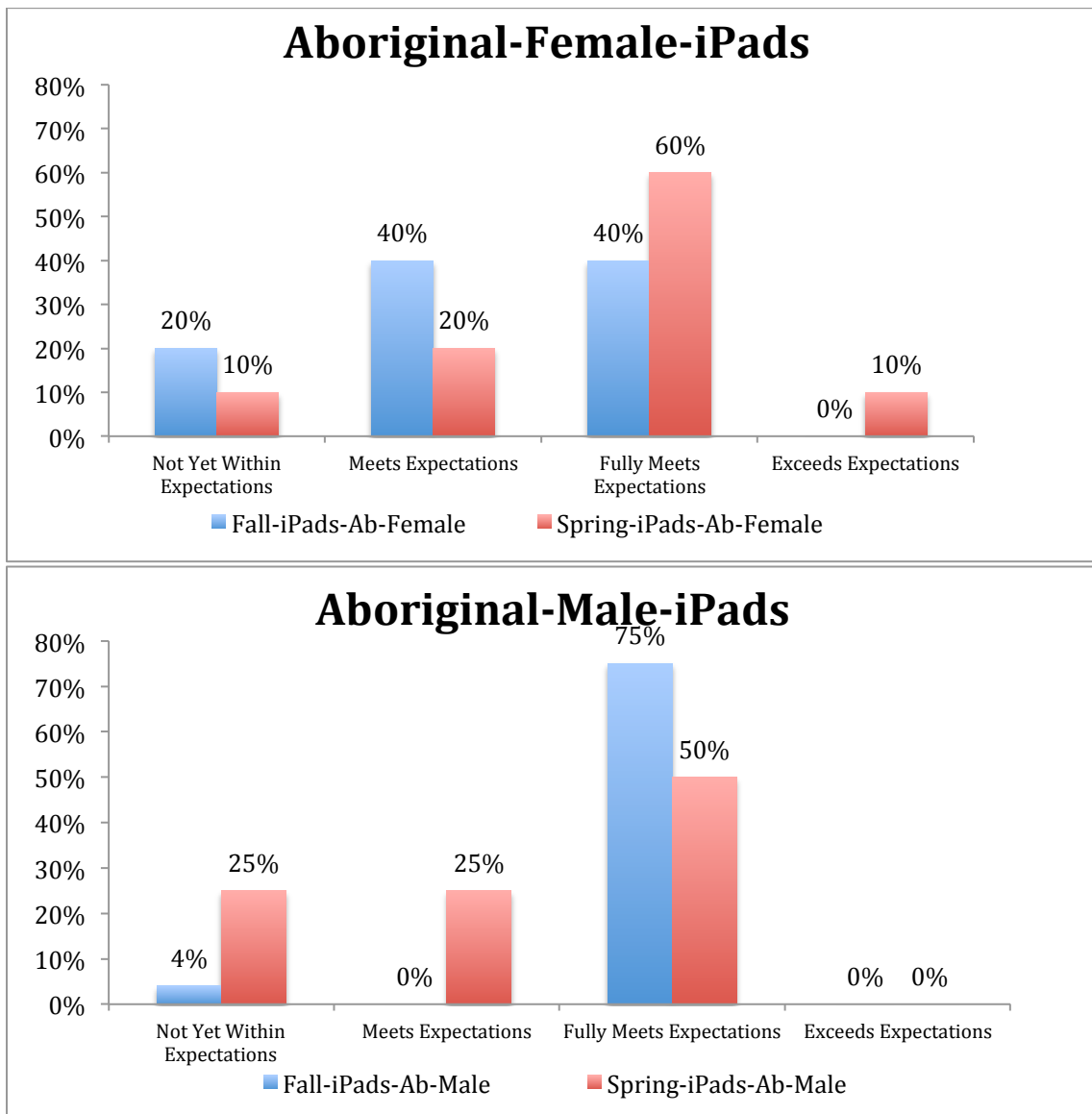
10 Code students + 8 Gifted Students
 Excluding Gifted (P)
 30% NYWE, 50% ME, 20% FME, 0% EE



Data for WWP All Grade 6 iPad Students
Aboriginal WWP iPad Students 14 Total 10 Female 4 Male



Data for WWP All Grade 6 iPad Students
Gender Aboriginal iPad 14 Total 10 Female 4 Male



*The spring decrease of fully meeting was only one male student



Data for WWP All Grade 6 Students
Comparison of Fall Spring Data All WWP, MacBooks and iPads

