

# Sparwood Secondary School (SSS)

## Growth Plan

6 YEAR PLAN: 2021/2022 to 2026/2027

September, 2023 for the 2023/2024 Edition



CONTEXT: COMMUNITY OF SPARWOOD & SCHOOL	SCHOOL GOALS	STAKEHOLDERS
<p><b>Community of Sparwood</b></p> <p>The community of Sparwood has a population of 4100 and is situated in the Southeastern region of British Columbia. Sparwood's economy is based on a vibrant open pit coal mining network of four mines that deliver coal to domestic and foreign markets including Asia, Europe, and South America.</p> <p><b>Sparwood Secondary School</b></p> <p>Sparwood Secondary School has a student population of approximately 300 students and a staff of 44. SSS is known as an inclusive and diverse school with a range of opportunities to meet the needs of our students. Students have the opportunity to participate in a wide range of athletic activities. SSS offers a variety of academic programs as well as practical and fine arts electives. SSS supports students with a variety of needs through Indigenous Supports (for cultural and academic needs), Alternate Education opportunities, and Student Services programs.</p>	<p><b>Goal 1 – Numeracy:</b></p> <p>Improve student numeracy through a “Thinking Classrooms”* approach beginning with the implementation of a grade 8 numeracy support block. Teachers in all subject areas will also incorporate numeracy into their discipline.</p> <p><i>* from: Building Thinking Classrooms in Mathematics – Peter Liljedahl</i></p> <p><b>Goal 2 – Human and Social Development:</b></p> <p>Students develop stronger feelings of being welcomed, connected and sense of belonging in our school community.</p>	<p>The following stakeholders were engaged in the ongoing development of this Growth Plan:</p> <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> School Staff</li><li><input checked="" type="checkbox"/> Indigenous Education Support Worker</li><li><input checked="" type="checkbox"/> Students (Student Council)</li><li><input checked="" type="checkbox"/> Parents (PAC)</li><li><input checked="" type="checkbox"/> Trustee</li><li><input checked="" type="checkbox"/> School District management</li></ul>
<b>OUR SPARWOOD SECONDARY SCHOOL COMMUNITY:</b>		
<ul style="list-style-type: none"><li>▪ Understands the success of the educational process depends on a deep belief in, and a commitment to ensuring that all students can learn.</li><li>▪ Recognizes the value in project-based learning.</li><li>▪ Understands that the concept of numeracy is cross curricular.</li><li>▪ Values student connectedness and engagement</li><li>▪ Recognizes the need for personalized learning and is exploring how digital media and technology can help to differentiate instruction and meet the needs of all student learners.</li><li>▪ Recognizes that importance of a focus on socialization of students as well as intellectual development.</li><li>▪ Values social-emotional learning as part of a fundamental skill set students need to lead a happy and healthy life.</li><li>▪ Continually strives to develop teacher collegiality, reflective practice and collaborative planning.</li><li>▪ Consistently works towards building positive relationships with students to support student success.</li></ul>		

*Our school growth Plan is a six-year living document. We adjust and adapt to the needs of our students as needed, but maintain the targets we have set for this plan.*

**GOAL 1: Improve student numeracy through a “Thinking Classrooms” approach beginning with the implementation of a grade 8 numeracy support block. Teachers in all subject areas will also incorporate numeracy into their discipline.**

### **Our Five-Part Strategy for Numeracy Growth**

1. Our staff engages in continuous professional development on cutting edge teaching and assessment techniques related to numeracy.
2. We work weekly with Grade 8 students in small groups to develop authentic problem-solving skills in a Thinking Classroom. We build on this foundation in math classes through Grade 12.
3. We infuse numeracy across the curriculum and build a school culture which values and supports numerate thinking.
4. We patiently collect and carefully analyze quantitative and qualitative data related to student performance in numeracy.
5. We respond swiftly and definitively to signals in our data to build a timetable which supports mathematics learning as effectively and responsibly as possible.

### **Our Numeracy Data Set**

The **primary data set** used in growth plan research measures the grade seven class who joined SSS in 2021 and who will graduate in 2027.

Measures in the data set include (or will include):

- Fall 2021 FSA results
- Provincial Numeracy Assessment results in the 2024/2025 school year.
- WF:AS Numerical Operations results from a first test in January 2022 and a second in January 2023
- Ten assessments of Numeracy competencies made in the fall of 2022, and a further number made in the 2024/2025 school year.
- Mathematical Mindset surveys taken in fall 2022 and in fall 2024.
- A survey of class participation in numeracy-based electives in the 25/26 and 26/27 school years.

Parallel data sets are being collected as often as possible for other classes as described in Table 1 below.

Table 1 – Our Numeracy Data Set

CLASS OF...	FSA	GRADE 7 WF:AS	NUMERACY CLASS DATA	GRADE 8 MINDSET	GRADE 8 WF:AS	FOMPC 10 NUMERACY	GRADE 10 MINDSET	NUM 10 RESULT	SENIOR ENROL
2021	2015 F							2018/2019	2019-2021
2022	2016 F							2019/2020	2020-2022
2023	2017 F							2020/2021	2021-2023
2024	2018 F							2021/2022	2022-2024
2025	2019 F							2022/2023	2023-2025
2026	2020 F					2023 F	2023 F	2023/2024	2024-2026
<b>2027</b>	<b>2021 F</b>	<b>2022 W</b>	<b>2022 F</b>	<b>2022 F</b>	<b>2023 W</b>	<b>2024 F</b>	<b>2024 F</b>	<b>2024/2025</b>	<b>2025-2027</b>
2028	2022 F	2023 W	2023 F	2023 F	2024 W	2025 F	2025 F	2025/2026	
2029	2023 F	2024 W	2024 F	2024 F	2025 W	2026 F	2026 F	2026/2027	
2030	2024 F	2025 W	2025 F	2025 F	2026 W	2027 F	2027 F	2027/2028	
2031	2025 F	2026 W	2026 F	2026 F	2027 W			2028/2029	
2032	2026 F	2027 W						2029/2030	

*“2015 F” is the fall semester of 2015. The first half of the 2015/2016 school year*

*“2016 W” is the winter semester of 2016. The second half of the 2015/2016 school year.*

The class of 2027 (**in bold**) provides the primary data set.

Dates after 2023 F (*in italics*) are tentative.

## Our Numeracy Research Questions

Research Questions provide structure for our Growth Plan, directing attention to specific parts of our data set as we focus on improving a new aspect of our numeracy curriculum each year.

There are three questions which we began investigating in the first year of our plan and which we'll continue to explore through 2027. There are also five year-specific questions.

R1. Research Question 1 (2021-2026)	Did implementing a Numeracy Support program improve student achievement as assessed by the numeracy team in accordance with the new provincial language?
R2. Research Question 2 (2021-2026)	Did our six-year plan create and maintain a culture of positive mathematical mindsets at SSS, as indicated by student participation in senior math electives?
R3. Research Question 3 (2021-2026)	Were our interventions equitable and did they create improvements for Indigenous students that are on par with those for non-Indigenous students?
R4. Research Question 4 (2022/2023)	Did specific timetable-based interventions in grade 8 improve core math skills relative to the population benchmark?
R5. Research Question 5 (2023/2024)	Did regular 'Thinking Classroom' activities improve student competence and confidence ahead of the Provincial Numeracy Assessment?
R6. Research Question 6 (2024/2025)	<i>(Tentative)</i> Did grounding senior science classes in authentic design and engineering tasks improve achievement in Physics and Chemistry?
R7. Research Question 7 (2025/2026)	To Be Determined
R8. Research Question 8 (2026/2027)	To Be Determined

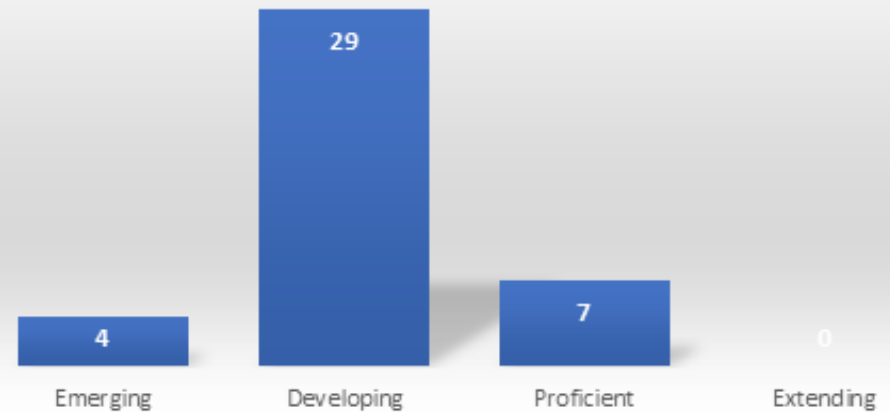
## Focus for 2023/2024: Research Question 5

In 2023/2024 we took steps to adopt the Thinking Classrooms model more fully in *Foundations of Math and Pre-Calculus 10* classes, with the hope of building confidence and competency in Numeracy.

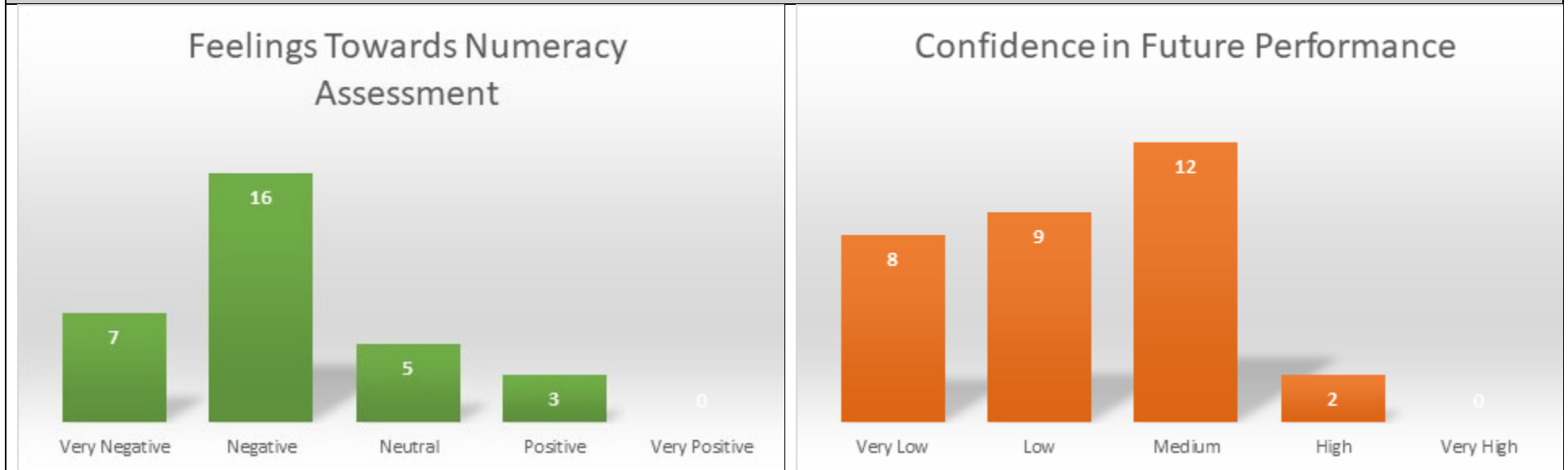
Quantitative and qualitative **pre-data** was collected in September by having students complete a government-provided sample Numeracy Exam, with the following results:



### Grade in September Trial



A survey was used to investigate the cohort's emotional affect and their level confidence regarding the January 2023 exam immediately after the completion of the trial:



There were moderate correlations demonstrated between feeling of confidence and performance on the trial exam ( $r=0.381$ ).

Students were effective in self-assessing their performance, particularly in the aspect of communication (self-assessment and actual performance correlate at  $r=0.395$ ). We hope that fostering self-assessment skills will be the foundation for authentic improvement.

Before seeing their results student correctly predicted that, as a class, they were most successful in the "interpret" aspect question and least effective in the "solve" aspect questions.

There was large variance in both self-assessment and results in the analyze aspect. Students have highly varied levels of abilities and confidence when it comes analysis. Interestingly, this reflects our findings in previous Numeracy inquiries described elsewhere in the growth plan.

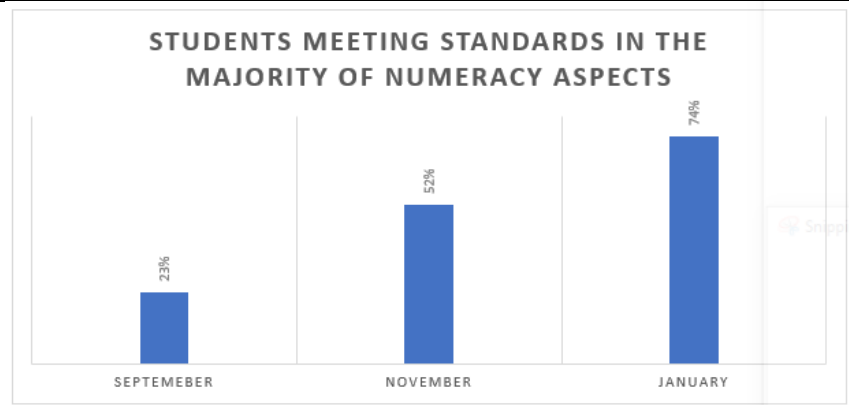
**Post-data** will include the results of a second survey in January 24, prior to the official Numeracy Assessment, as well as the results of that assessment.

*Target = Statistically significant improvement in both affect and confidence with regards to the Numeracy Assessment prior to the January session of the assessment.*

## Ongoing Analysis of Research Questions 1-4:

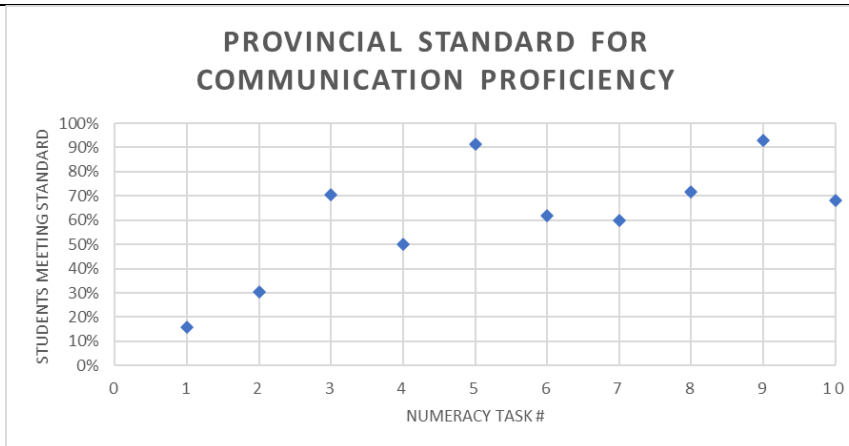
**Research Question 1:** Did implementing a Numeracy Support program improve student achievement as assessed by the numeracy team in accordance with the new provincial language?

In the 2022/2023 school year we observed consistent month-over-month improvement in Numeracy scores after working with Grade 8 students in a thinking classroom setting.



Specific improvements were noted in student ability to communicate numerate thinking, in line with the trial performance standards.

However we noted little improvement over time in student ability to productively analyze solutions offered by their peers.



In 2023/2024 we will again use September assessment of Numeracy Skills based on the provincial performance standards as **pre-data** and November and January assessments as **post-data** in our continuing exploration of this research question. We will modify our Numeracy Support program to better emphasize peer-to-peer analysis and target improvement in that Numeracy aspect.

*2023/2024 Target = Show statistically significant population improvement in all grade 8 students, with 60% of students measuring proficient or better in assessment of the “analyze” numeracy aspect.*

## Research Question 2

In the 2022/2023 school year we expanded our offerings of senior math electives with a new session of Foundations of Math 12 which put an emphasis on Business Administration. Following our addition of Statistics 12 to the timetable in 2021/2022 this continued to boost participation in math electives by senior students.

CLASS OF...	SENIOR MATH ELECTIVE ENROLMENT
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2021	3%
2022	37%
2023	46%
2024	...

In 2023/2024 we have again expanded our timetable with a senior Entrepreneurship and Marketing course. We will continue our latitudinal analysis of student interest in math by using previous years' elective-participation rates as **pre-data** and this year's rates as **post-data**. We will hold to our ongoing target.

*Ongoing Target = 40% of grade 12s enrolled in a math 12 elective.*

Two students from the Entrepreneurship and Marketing class were motivated to complete numeracy-based Capstones through their participation in this new senior class.







## Research Question 4

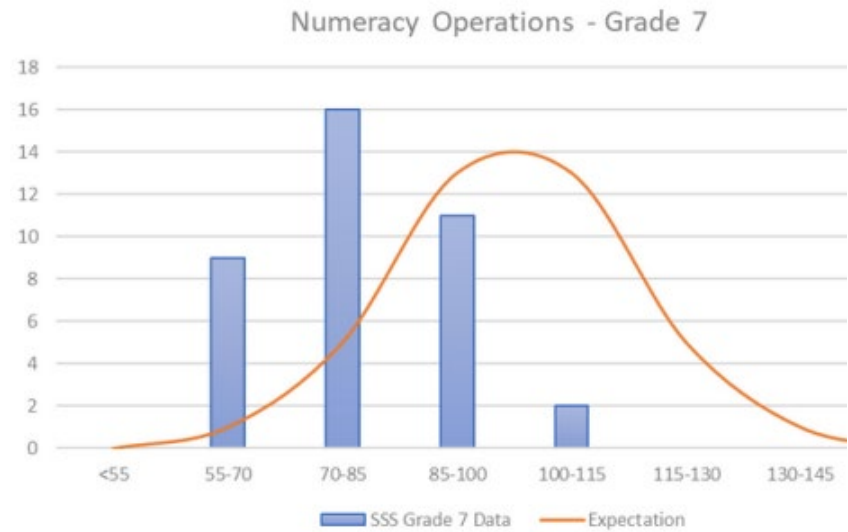
Did specific timetable-based interventions in grade 8 improve core math skills relative to the population benchmark?

In the 2022/2023 year we took major steps in timetable building to address gaps in fundamental math knowledge in our grade 8 cohort. The WF:AS screener was used to generate pre- and post-data for our analysis of this effort.

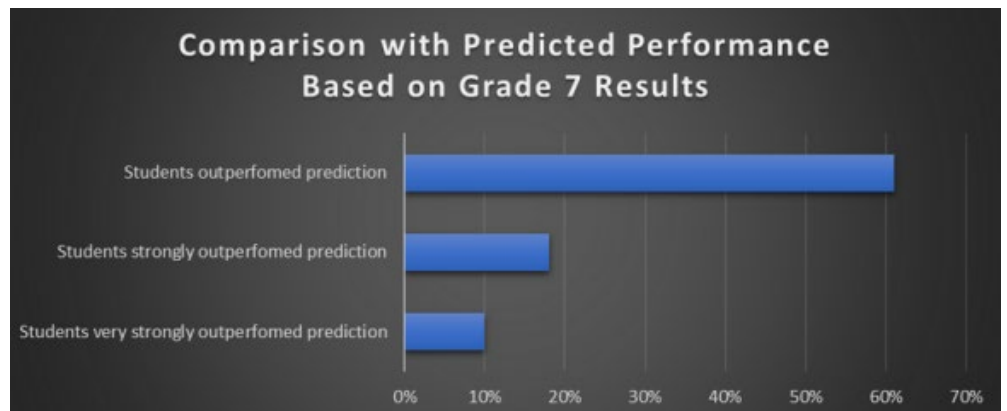
Full results are described in the [2023 SSS Engagement Night](#) document which can be found on our school webpage.

Data collected in grade 7 indicated that similar interventions were not required for the 2023/2024 grade 8 class. That noted, we continue to monitor growth in mathematical fundamentals via the WF:AS.

*Target = Statistically significant improvement in core math skills.  
(This target was **met** in 2023 and several important secondary results were demonstrated. See [here](#) for more information.)*



Pre-Data – Grade 7 WF:AS Results



Post-Data – Growth Scale Improvement on Grade 8 WF:AS Retest

## **GOAL 2: Human and Social Development: Students develop stronger feelings of being welcomed, connected and sense of belonging in our school community.**

### **Human and Social Development – Strategy:**

- ✓ Regular, school wide activities to promote positive peer to peer and teacher/student relationships.
- ✓ Targeted, intentional small group activities to support student connection and sense of belonging.
- ✓ Peer mentoring
- ✓ Building Habits of Character when managing relationships or conflict
- ✓ Promote shared understandings and common language around Core Competencies
- ✓ Encourage all staff and students to have a common vision.
- ✓ Ensure each student is known well by at least one adult in the building.

### **Our Human & Social Development Data sources:**

Measures in the data set include (or will include):

- Student Learning Survey results
  - measured mid year each school year
  - students in grades 7, 10 and 12 are included in this survey
- Middle Years Development Instrument (MDI)
  - measured each spring for each school year
  - students in grades 5 and 8 are included in this survey

Due to the limitations of the grades surveyed each year, we note that tracking cohort data may take some time. Fluctuations from year to year might be the result of the nature of the students in the cohort or the interventions we implement.

## Research Question #1

Did targeted school activities promoting positive relationships with peers and with school staff result in a more welcoming feeling for students at SSS?

**Target: 5% growth year over year based on student responses from the annual Student Learning Survey.**

**‘Do you feel welcome at your school?’**

**‘Is school a place where you feel like you belong?’**

### HUMAN & SOCIAL DEVELOPMENT

Pre & Post Data: Ensuring a Continuous Cycle of Improvement

Student Learning Survey – Grade 7							
Question	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
Do you feel welcome at school?	42%						
Is school a place where you feel like you belong?	24% 23% (I)						
I = Indigenous student responses							

\*Data for the 2022/23 school year is not available at this time (September, 2023) but will be updated as soon as it is available.

# SCHOOL GROWTH PLAN SUCCESSES

Visual Evidence of our successes! More images will be added throughout the school year.



## Consideration for Truth & Reconciliation Calls to Action in the SSS School Growth Plan

Within our growth plan, we will continue to strive to implement the Truth and Reconciliation Calls to Action. We will also continue to deepen the understanding of the First Peoples' history and perspective through a vibrant and current offering of numeracy learning opportunities from the First Peoples' perspective. Data will be collected and used to inform next steps based on the study of results from the Indigenous sub-category of SSS student results. Leadership opportunities and opportunities to strengthen healthy relationships will be developed and presented while working towards improved inclusivity and consideration of Indigenous perspectives.

## Ongoing Strategic Engagement

This School Growth Plan will remain a monthly agenda item for staff meetings. Indigenous student data will be reviewed continuously with the Indigenous Education Support Worker. The Human & Social Development of students will also be a focus of school and Parent Advisory Committee collaboration. Student Council will be actively engaged in peer mentoring and collaboration with reflection on the success of the planned activities. Grade 7 FSA data will be used to guide Grade 8 numeracy support. Data will be updated throughout the school year and the School Growth Plan will be treated as a living document.

## Professional Development

Sparta Notes – weekly staff newsletter with school pedagogy and school culture communication

Professional Development opportunities for supporting Numeracy.

Staff collaboration for how to support students so they feel welcome, connected, and have a sense of belonging to the Sparwood Secondary School Community.