AGILE CLASSROOMS

REFINEMENT ROUTINE GUIDE

GROWING AUTHENTIC SKILLS
THROUGH AGILE LEARNING

TABLE OF CONTENTS

01

Introduction

In an Agile Classroom, routines are structured, repeated practices that help students cultivate essential skills such as self-direction, collaboration, and adaptability. Instead of focusing solely on content knowledge, these routines emphasize hands-on skill development through consistent, real-world application. This approach allows students to internalize these skills, enabling them to apply what they've learned meaningfully.

Agile Classrooms employ **Learning Sprints**—iterative cycles, each lasting four weeks or less—to help students plan, achieve, and refine their learning goals. Each sprint serves as a feedback loop, breaking down larger learning goals and projects into manageable cycles that promote steady, incremental progress.

OVERVIEW OF THE FIVE SELF-DIRECTED LEARNING ROUTINES

Each Learning Sprint is made up of Five Self-Directed Learning Routines, which support both individual and collective growth. These routines can be used sequentially or independently to fit the context of learning.

Table 1.1.1: Overview of the Five Self-Directed Learning Routines

Routine	Description	Focus	Timing
1. Refinement	Revisiting and updating learning goals to keep them relevant and challenging	Scoping and sequencing of future goals.	Continuously, as needed
2. Planning	Defining selected goals and preparing steps to achieve them	Current goals and the action plan	Start of Learning Sprint
3. Check-In	Tracking progress and making real-time adjustments	Monitoring and adapting daily progress	Multiple times throughout the Learning Sprint
4. Review	Presenting learning outcomes, receiving feedback, and updating goals	Learning outcomes and progress	End of Learning Sprint
5. Retrospective	Reflecting on learning methods and teamwork	Process & relationships	End of Learning Sprint, after Review

These routines provide structured opportunities to practice and develop essential skills, ensuring that learning remains focused and adaptable. This guide centers on the **Refinement Routine**, where learning goals are continuously revisited and refined to maintain alignment with overarching learning objectives.

02

Understanding Refinement Routine

The **Refinement Routine** is a forward-thinking process that prepares students for future learning while maintaining alignment with long-term objectives. By breaking down broad ideas into actionable steps it ensures clarity, adaptability, and progress. Like curating a dynamic learning playlist, it evolves with feedback and priorities, helping students and teachers focus on meaningful, future-ready goals.

2.1 REFINEMENT ROUTINE

The Refinement Routine is a structured process that transforms broad learning objectives into actionable goals, ensuring clarity, prioritization, and alignment with future learning needs. Guided by the **SCOPE** acronym, it helps students and teachers refine goals to prepare for upcoming tasks, foster alignment with long-term objectives, and maintain adaptability.

Table 2.1.1: SCOPE Framework in the Refinement Routine

S – SPECIFY	Ensure goals have the right level of detail for where they are in the refinement process. Immediate goals need clear Success Criteria, while longer-term objectives can remain broader.
C – CHUNK	Break larger goals into smaller, manageable goals at the appropriate time. Immediate goals should be small enough to achieve within the upcoming cycle. Goals further away can be larger.
O – ORDER	Arrange goals in a logical sequence to support learning dependencies and skill-building. Reorder as necessary to adapt to progress and emerging priorities.
P – PRUNE	Remove irrelevant, outdated, or unnecessary goals to maintain focus and keep the refinement process streamlined.
E – EXTEND	Add new goals based on feedback, emerging priorities, or learning opportunities to keep the process forward-thinking and dynamic.

By conducting these actions, teachers and students collaboratively create a personalized, adaptive learning roadmap, ensuring alignment with individual needs and long-term aspirations.

2.2 THE LEARNING BACKLOG

A Learning Backlog organizes and prioritizes learning goals, skills, and deliverables into a dynamic, visual roadmap. Each goal or task in the backlog is referred to as a **Learning Backlog Item (LBI)**—a focused, actionable step that guides students toward progress. Designed to be flexible, the Learning Backlog evolves continuously through feedback and evaluation, keeping students on track while adapting to new challenges.

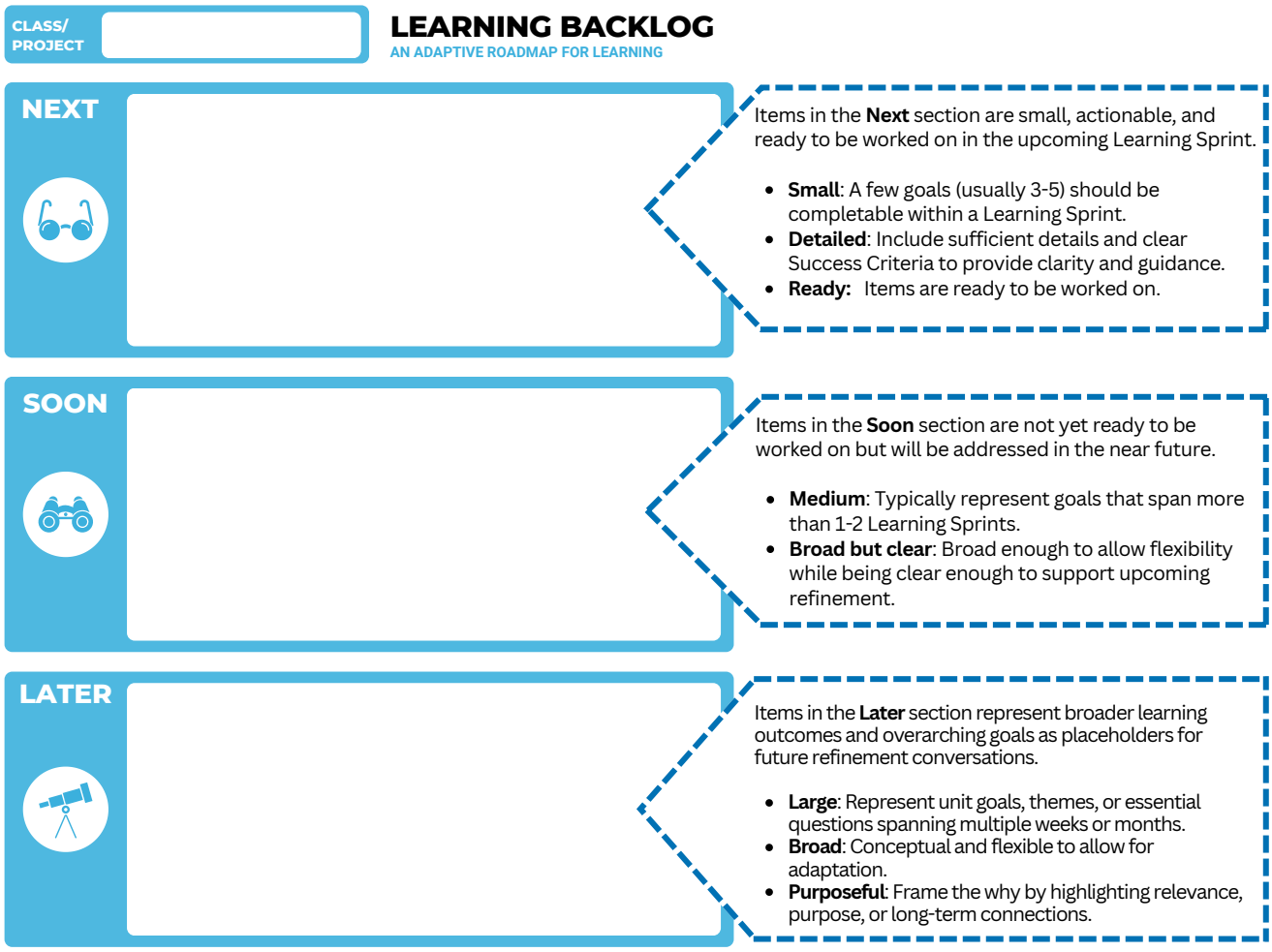


Figure 2.2.1: Learning Backlog NSL Format Explanation

The Learning Backlog is not static; it is meant to grow and change as students reflect on their learning journey and as priorities shift. This adaptability ensures that students remain engaged with meaningful, future-ready goals while maintaining alignment with overarching learning objectives.

To make the Learning Backlog easy to manage, it can be structured using the **Next-Soon-Later (NSL)** format, which organizes goals based on their priority and readiness for action:

 **Next**	Small, actionable goals ready for the upcoming Learning Sprint. These goals are well-defined, with clear Success Criteria to guide progress.
 **Soon**	Medium-sized goals requiring further refinement. These goals are broader than those in the Next section, typically spanning more than one Learning Sprint, but are still flexible enough to adapt.
 **Later**	Larger conceptual goals serve as placeholders for future refinement. These goals include unit themes, overarching objectives, or essential questions that provide long-term direction and context.

By organizing goals into these time horizons, the Learning Backlog helps students and teachers focus on what matters most now while maintaining a clear vision for the future. It serves as both a planning tool and a reflection tool, fostering self-direction, adaptability, and strategic thinking in learners.

2.3 WHY REGULAR REFINEMENT MATTERS

The Refinement Routine fosters essential habits and skills that extend beyond the classroom, helping students develop competencies critical for lifelong learning and adaptability:

- **Purposeful Goal Setting:** Students learn to prioritize meaningful and achievable goals, helping them focus their energy and make steady progress toward long-term objectives.
- **Reflection and Growth:** Regular refinement creates space for students to reflect on their progress, learn from setbacks, and apply feedback constructively, fostering a growth mindset.
- **Strategic Adaptation:** By reassessing and adjusting goals as new challenges or opportunities arise, students build resilience and learn to thrive in changing circumstances.
- **Teamwork and Collaboration:** Refining goals in collaboration with peers teaches students how to effectively share ideas, negotiate priorities, and work toward common objectives.
- **Ownership and Accountability:** By taking an active role in refining their learning path, students cultivate a sense of ownership over their progress and develop self-management skills.

Refinement isn't just about keeping the Learning Backlog up to date—it's about empowering students to take charge of their learning journey, make informed decisions, and continuously adapt to meet future challenges.

03

Preparation

Refinement requires preparation to ensure a smooth and productive session. The success of this routine depends on an up-to-date Learning Backlog that reflects current goals and progress.

KEY PREPARATION TASKS INCLUDE:

- [ ] **Determine Student Involvement:**
  Decide the level of student choice and collaboration using the Learning Zones Framework (see Section 5).
- [ ] **Prepare the Learning Backlog:**
  Ensure the Learning Backlog is updated, visible, and accessible for inspection and refinement. This could be on a physical board, a shared document, or a digital tool.
- [ ] **Review Feedback and Progress:**
  Collect relevant feedback and data from previous sprints or learnings to guide the Refinement Routine.

By addressing these preparation steps, educators create a conducive environment for the Retrospective Routine, maximizing its effectiveness in fostering continuous improvement in how students learn, work, and collaborate.

04

Procedure

The Refinement Routine ensures that the Learning Backlog evolves to reflect student progress, feedback, and changing priorities. Goals transition from broad and conceptual in the Later section to medium-sized and flexible in the Soon section, and finally to small, actionable items in the Next section, ready for immediate work. The primary focus is ensuring that Next items are prepared first, followed by Soon and Later as needed. The following table outlines the actions and appropriate level of detail for each time frame.

 **Next** **Prepare for the Upcoming Sprint**	These items are coming up in the next few Sprints and need to be ready for students to work on: • **Small size:** Items should be small enough so that 3-5 items can be completed within a single Sprint. • **Details and Success Criteria:** Add sufficient details and clear Success Criteria to provide clarity and guidance for each goal. • **Sprint-ready:** Ensure enough items are refined and ready to support at least the next Sprint.
 **Soon** **Refine Medium-Term Goals**	Focus on medium-sized goals that are not yet Sprint-ready: • **Medium size:** Items here are broader than Next items, typically spanning more than one Sprint. • **Flexibility and Clarity:** Ensure goals are broad enough to allow flexibility but clear enough to support upcoming refinement. • **Optional Success Criteria:** Success Criteria may be added but are not always necessary at this stage.
 **Later** **Maintain the Big Picture**	Keep long-term goals large and conceptual to guide the overall direction: • **Large size:** Goals here include unit themes, overarching objectives, or essential questions that span multiple weeks or months. • **Minimal Detail:** Avoid adding excessive details until these goals move closer to Soon or Next. • **Purpose and Context:** Use this section to anchor the purpose and relevance of the backlog, providing context for long-term planning.

The **SCOPE** acronym (Specify, Chunk, Order, Prune, Extend) is essential for refining goals across these time frames. It helps educators and students decide which items to prepare, how much detail to include, and when to focus on particular goals. By aligning actions with these time frames, the refinement process ensures clarity, adaptability, and readiness for meaningful progress.

Visual Example of a Learning Backlog

The image below illustrates how learning goals for a History class are organized and refined within the Next, Soon, and Later sections of the Learning Backlog. Each section reflects different levels of detail, size, and readiness for work.

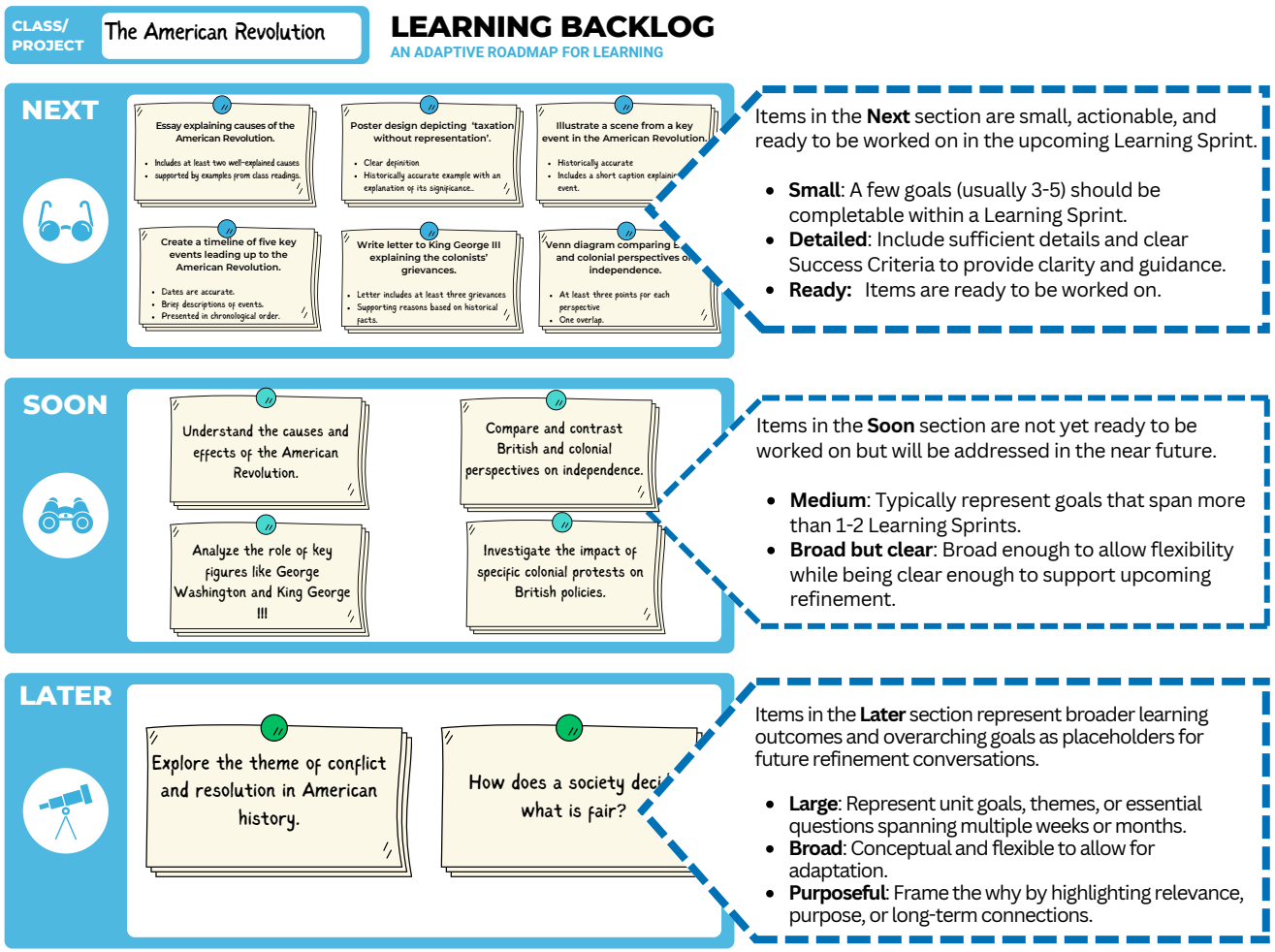


Figure 4.1 NSL Learning Backlog with History Class Examples

05

Scaffolding Progression in the Refinement Routine

Scaffolding helps teachers create a structured environment where students gradually take on more responsibility while still receiving support. In Agile Classrooms, building student agility involves two key dimensions: **Choice** and **Collaboration**, supported by the **Spectrum of Choice** and the **Spectrum of Collaboration**. These frameworks guide students in becoming more effective at making decisions and working as a team, giving them more control over their learning without teachers losing control of the classroom.

The intersection of these spectrums forms the **Four Learning Zones**, providing a clear framework for how Choice and Collaboration come together. These zones simplify the configuration of the learning environment based on students' current abilities, providing the right level of challenge to foster growth without causing overwhelm.

Next, we will explore each framework in detail, focusing on how they enhance reflection, collaboration, and meaningful improvement during the **Refinement Routine.**

5.1 THE SPECTRUM OF CHOICE IN THE REFINEMENT ROUTINE

In the **Refinement Routine**, the teacher's role shifts based on students' readiness for self-direction, moving through three roles—**Instructor**, **Mentor**, and **Coach**. This gradual release of responsibility builds confidence in managing learning goals and progressing toward student-led Refinement.

Table 5.1: Spectrum of Choice in the Refinement Routine

Choice Level	How It Looks in the Refinement Routine	Language Examples
1: TEACHER-LED Student Choice: **Low** Educator Role: **Instructor** Student Role: **Follower**	The teacher leads refinement, guiding and modeling how to set priorities and sequence tasks. Students observe closely, aiming to understand the reasoning behind each decision.	"Based on what I observed, I'm adjusting this goal's priority. Let's go over why this will help us reach our next milestone."
2: CO-LED Student Choice: **Medium** Educator Role: **Mentor** Student Role: **Contributor**	The teacher acts as a mentor, making refinement decisions jointly with students while retaining some authority. Students actively participate by suggesting priorities and contributing to backlog updates with teacher guidance.	"Let's review these goals together. Which one do you think should be our focus next?" "How would you adjust this goal based on what we learned?"
3: STUDENT-LED Student Choice: **High** Educator Role: **Coach** Student Role: **Leader**	Students lead the refinement process, prioritizing and sequencing tasks independently, with the teacher stepping in only to provide feedback or answer questions as needed.	*"What factors did you consider when prioritizing these goals?"* *"How would you approach refining this goal to make it achievable?"*

While students gain more autonomy at each level, the teacher retains the authority to guide or adjust decisions if needed. This is used sparingly to support student agency and maintain accountability in the refinement process.

5.2 THE SPECTRUM OF COLLABORATION IN THE REFINEMENT ROUTINE

The **Spectrum of Collaboration** in the Refinement Routine outlines the levels of student interaction, from working solo to collaborating as a cohesive team. As they progress, students develop the skills to refine goals collaboratively, making the process more efficient and promoting shared responsibility.

Table 5.2 Spectrum of Choice in the Refinement Routine

Collaboration Level	Student Interaction	Facilitator
1. Individual (Solo)	Students refine goals individually, focusing on their own learning objectives. Minimal collaboration with peers, though some peer or teacher input may be given as needed.	*No group facilitator required.*
2. Group (Cooperative)	Students work in small groups, refining individual goals while considering group priorities. Group discussions help clarify task relevance and sequencing.	*Teacher or student group facilitator optional.*
3. Team (Collaborative)	Students collaborate as a team, refining shared goals and prioritizing together. This approach emphasizes team accountability and alignment on objectives.	*Student team facilitator needed.*

5.3 THE FOUR LEARNING ZONES IN THE REFINEMENT ROUTINE

The **Four Learning Zones** emerge from the intersection of the Spectrum of Choice and the Spectrum of Collaboration. These zones provide a structured path toward self-directed refinement, guiding students or teams as they move from teacher-led refinement to collaborative goal-setting and prioritization.

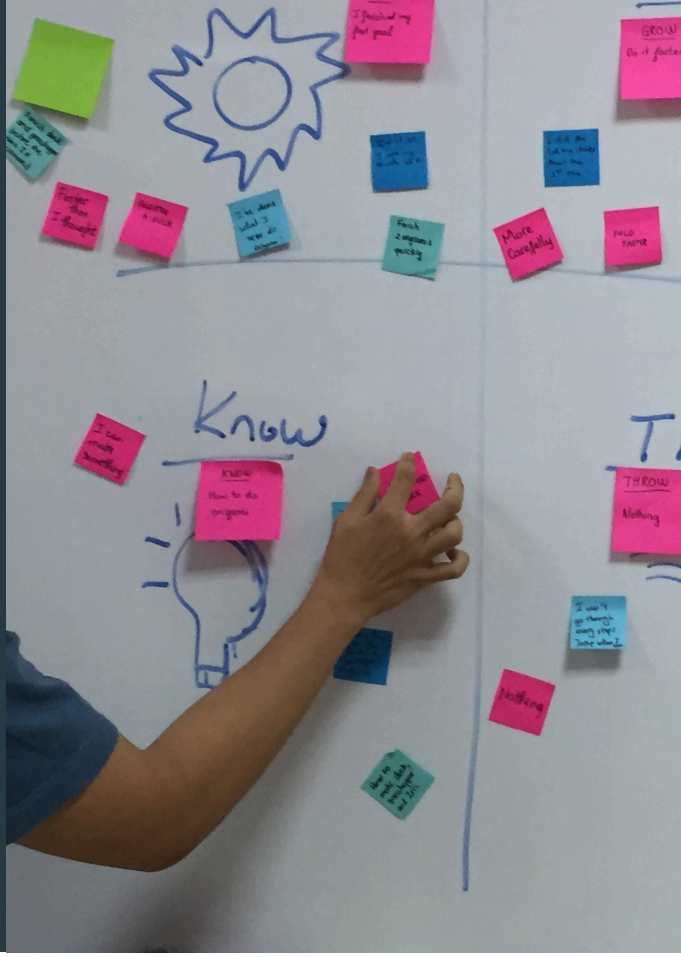
Table 5.3: Spectrum of Choice in the Refinement Routine

	Collaboration Low-Med	Collaboration Med-High
Choice Low - Medium	**Zone 1: Traditional Classroom** Teacher-directed Refinement, with students following along. **Learning Backlog:** Teacher updates a classroom-wide Learning Backlog.	**Zone 2: Cooperative Learning** Teacher guides Refinement, with students contributing ideas. Strive for agreement between student groups and teacher, but, the teacher has the final say. **Learning Backlog:** Groups collaborate on a shared Learning Backlog with teacher oversight.
Choice Medium - High	**Zone 3: Independent Learners** Students refine their personal goals with minimal peer interaction. **Learning Backlog:** Students manage personalized Learning Backlogs.	**Zone 4: Self-Directed Teams** Teams manage refinement independently, fully collaborating to update goals and priorities. **Learning Backlog:** Teams update a shared Learning Backlog as a unit.

06

Evaluating Student Progress

Evaluating student progress in Refinement Routine is essential to understanding how well students develop self-direction and collaboration skills. This evaluation allows educators to provide targeted feedback and adjust the level of support provided to each student. Using single-point and multi-point rubrics, teachers can assess where students excel and where they need additional guidance or practice.



6.1 SINGLE-POINT RUBRIC FOR REFINEMENT ROUTINE

The single-point rubric focuses on key success criteria for each competency, allowing teachers to provide targeted feedback on what students are doing well and where improvement is needed.

Table 6.1 Single Point Rubric for the Refinement Routine

Competency	Success Criteria
Connect Learning to the Bigger Context	Students clearly articulate how their learning goals relate to overall learning objectives, unit themes, or real-world relevance.
Set Meaningful and Achievable Targets	Students set specific, measurable, and realistic goals, ensuring they can be completed within the sprint timeframe.
Adapt Learning Backlog Based on Feedback	Students incorporate feedback from various sources and adjust their goals and methods accordingly to improve their chances of success.
Break Down Large Goals into Manageable Goals	Students decompose larger goals into smaller, actionable tasks with sufficient detail for execution.
Sequence Items Effectively	Students order learning goals logically, ensuring smooth workflow and effective management of dependencies.

6.2 MULTI-POINT RUBRIC FOR REFINEMENT ROUTINE

This multi-point rubric provides a detailed evaluation of student progression across five proficiency levels, from novice to expert.

Table 6.2 Multi- Point Rubric for the Refinement Routine

Competency	Novice	Advanced Beginner	Competent	Proficient	Expert
Connect Learning to the Bigger Context	Relies fully on the teacher to make connections.	Occasionally provides input but needs guidance.	Connects goals with teacher support.	Independently connects goals; seeks advice if needed.	Independently connects goals with deep insights.
Set Meaningful and Achievable Targets	Relies on the teacher to set goals.	Participates with input but needs guidance.	Suggest goals with some guidance.	Sets clear, realistic goals Independently.	Sets goals independently with strategic foresight.
Adapt Based on Feedback	Relies on the teacher to adjust goals.	Provides input when adapting but needs direction.	Applies feedback with guidance.	Adapts based on feedback Independently.	Consistently adapts with a reflective approach.
Break Down Large Goals into Manageable Goals	Relies on the teacher to break down goals.	Offers suggestions but needs direction.	Decomposes goals with some guidance.	Independently decomposes goals; seeks advice if needed.	Breaks down goals strategically with depth and clarity.
Sequence Items Effectively	Relies on the teacher for sequencing.	Offers input but relies on teacher's decisions.	Suggests sequencing with some guidance.	Independently sequences tasks; seeks advice if needed.	Sequences tasks strategically with nuanced understanding.

6.2 MULTI-POINT RUBRIC FOR REFINEMENT ROUTINE

This multi-point rubric provides a detailed evaluation of student progression across five proficiency levels, from novice to expert.

Table 6.2 Multi- Point Rubric for the Refinement Routine

Competency	Novice	Advanced Beginner	Competent	Proficient	Expert
Connect Learning to the Bigger Context	Relies fully on the teacher to make connections.	Occasionally provides input but needs guidance.	Connects goals with teacher support.	Independently connects goals; seeks advice if needed.	Independently connects goals with deep insights.
Set Meaningful and Achievable Targets	Relies on the teacher to set goals.	Participates with input but needs guidance.	Suggest goals with some guidance.	Sets clear, realistic goals Independently.	Sets goals independently with strategic foresight.
Adapt Based on Feedback	Relies on the teacher to adjust goals.	Provides input when adapting but needs direction.	Applies feedback with guidance.	Adapts based on feedback Independently.	Consistently adapts with a reflective approach.
Break Down Large Goals into Manageable Goals	Relies on the teacher to break down goals.	Offers suggestions but needs direction.	Decomposes goals with some guidance.	Independently decomposes goals; seeks advice if needed.	Breaks down goals strategically with depth and clarity.
Sequence Items Effectively	Relies on the teacher for sequencing.	Offers input but relies on teacher's decisions.	Suggests sequencing with some guidance.	Independently sequences tasks; seeks advice if needed.	Sequences tasks strategically with nuanced understanding.

6.3 STUDENT-FRIENDLY RUBRIC FOR THE REFINEMENT ROUTINE

This student-friendly rubric is designed to help students self-assess their performance during the Refinement Routine. It encourages students to take ownership of their learning process by reflecting on how they set goals, adapt based on feedback, and break down their work into manageable steps. Educators can use this rubric to guide students in identifying areas of strength and opportunities for improvement.

Table 6.3 Student Friendly Rubric for the Refinement Routine

What You're Doing	Just Starting	Getting Better	Doing Well	Nailing It	Crushing It
Connecting Learning to the Bigger Context	Need the teacher to explain how goals connect to the bigger picture.	Start to provide input but still need reminders from the teacher.	Connect goals with teacher guidance and occasional reminders; seek advice when needed.	Regularly connect goals on your own and ask thoughtful questions to deepen understanding.	Make deep, independent connections between goals and the bigger picture without needing help.
Setting Meaningful and Achievable Targets	Rely on the teacher to set goals.	Share ideas for goals but need help making them realistic.	Suggest clear and realistic goals with some teacher input.	Set clear and realistic goals independently and adjust when needed.	Set meaningful and achievable goals on your own with a clear strategy to achieve them.
Adapting Based on Feedback	Need the teacher to adjust your goals or explain feedback.	Use feedback when reminded but need help applying it.	Apply feedback with some guidance from the teacher.	Regularly adapt your goals based on feedback without needing help.	Use feedback right away to improve, reflecting on what worked, what didn't, and why.
Breaking Down Big Goals into Steps	Need the teacher to break down big goals into smaller steps.	Start to break goals into smaller steps but still need help.	Break down big goals into smaller steps with occasional teacher input.	Regularly break down big goals into manageable steps on your own.	Break down big goals into clear, manageable steps with strategy and purpose.
Sequencing Tasks Effectively	Need the teacher to decide the order of your tasks.	Share ideas for the order but need help deciding what makes sense.	Sequence tasks with some teacher input.	Regularly plan the order of your tasks independently and ask for feedback when unsure.	Organize tasks in a smart, strategic order that aligns with your learning goals and shows deep understanding of what needs to come first.

6.4 EXAMPLE: USING THE STUDENT GROWTH AND FEEDBACK FORM

The Student Growth and Feedback Form is a coaching tool designed to help students grow in their ability to manage their Learning Backlog independently. By applying iterative growth experiments, teachers coach students through the Refinement Routine, helping them develop the skills needed to break down goals and refine learning paths on their own.

Example Scenario: Renewable Energy Innovators (9th Grade Science Class)

- **Student/Team:** Team Innovators
- **Learning Sprint Routine:** Refinement Routine
- **Competency to Improve:** Setting Meaningful and Achievable Targets

To continue using rubrics to guide the growth process and foster independent refinement skills, download the full Student Growth and Feedback Form and instructions at https://learn.agileclassrooms.com/coaching-student-agility-protocol.

Student/Team	Team Innovators	**Learning Sprint Routine**	Refinement
Competency To Improve		**Current Level**	**Next Target Level**
Setting Meaningful and Achieva		Competent	Proficient
Causes: What are the factors influencing the current level of performance?		**Growth Goal:** What is the desired future state of performance? What does better look like?	
• Breaking down large goals into smaller, manageable objectives • Sequencing them logically • Prioritizing based on relevance and progress • Adapting goals based on feedback from teachers and peers		Break down work so that it is achievable within a Learning Sprint. This will aid in a feeling of progress and faser feedback .	

Growth Experiment	Next Improvements To Try	Progress Notes
Experiment 1 **Date:**	Break down each renewable energy goal into smaller, more specific goals for the next 1-3 sprints. Ensure each smaller goal has a clear outcome.	Decomposed the goals but left some too vague for effective progress measurement.
Experiment 2 **Date:**	Add success criteria for each smaller goal to ensure clarity and achievability. Reflect on previous sprint performance to estimate time and resources more accurately.	Improved by adding more specific success criteria but still struggled with accurately estimating effort.
Experiment 3 **Date:**	Try using Roman voting within the team to assess whether the goals were small enough to be completed within the upcoming Sprint. .	Roman voting helped students to have the right discussions to determine if the size was small enough
Experiment 4 **Date:**	They are now at the Proficiency level!	

07

Potential Pitfalls and How to Avoid Them

The following table outlines common pitfalls that can occur during the Refinement Routine and strategies to avoid them:

Table 7: Potential Pitfalls For The Refinement Routine

Pitfall	Description	Ways to Mitigate
Overloading the Backlog	Refining too many items at once can overwhelm students and educators.	*Prioritize key items and focus on what's achievable within the sprint.*
Lack of Clear Success Criteria	Without clear success criteria, students may struggle to complete backlog items effectively.	*Ensure every item has measurable success indicators defined by students and teachers.*
Limited Student Engagement	Students may not actively participate in the refinement process, leading to limited ownership of their learning.	*Gradually increase student involvement to foster ownership. Use the Learning Zones Framework to scaffold their participation.*
Getting Too Specific Too Early	Over-analyzing items further down the backlog wastes time on tasks not yet relevant.	*Focus on higher-level goals for future items; leave detailed refinement for later.*
Not Getting Specific Enough for Upcoming Items	Failing to provide enough detail for items in the next sprint can lead to confusion and inefficiency.	*Ensure items for the next sprint are well-defined with sufficient detail for confident progress.*
Tokenism	Students may feel they need more meaningful influence over their learning path.	*Be explicit about the level of student choice and ensure they have a real role in refining the backlog.*
Difficulty Getting Consensus (In Teams)	Teams may struggle to reach consensus on how to refine or sequence their backlog items.	*Encourage structured team discussions (e.g., team voting) to reach consensus on backlog decisions.*

08

Appendix

8.1 ACTUALIZING STANDARDS

Refinement Routine cultivates essential 21st-century skills like critical thinking, collaboration, and self-direction. It aligns with and makes actionable standards such as the **ISTE Standards for Students** and the **P21 Framework for 21st-Century Learning.**

ISTE Standards for Student Alignment

Table 8.1.1: ISTE Standards Alignment

ISTE Standard	Standard Description	Refinement Routine Alignment
1a: Empowered Learner	Students articulate learning goals, build strategies for achieving them, and reflect on their learning.	*Students set and revise their learning goals based on feedback and reflection, taking responsibility for adjusting their path toward achievement.*
1c: Empowered Learner	Students use technology to seek feedback, reflect, and improve learning outcomes.	*Students actively seek and incorporate feedback, reflecting on progress and making adjustments to their learning goals accordingly.*
2a: Digital Citizen	Students manage personal data and practice safe, ethical behavior online.	*When using digital tools for refinement, students practice responsible digital behavior, managing their learning tasks while respecting privacy and collaboration norms.*
4a: Innovative Designer	Students use technology to identify and solve problems creatively.	*Students articulate problems and solutions, breaking them down into actionable goals using digital tools to design and manage their learning path innovatively.*
4b: Innovative Designer	Students select and refine solutions based on iterative feedback and testing.	*Students iteratively adjust and refine their goals and strategies, adapting solutions based on feedback and outcomes.*
5c: Computational Thinker	Students break problems into component parts and develop models for complex issues.	*Students break down large learning goals into smaller, manageable parts, creating models of their progress and refining these models based on feedback and outcomes.*
6a: Creative Communicator	Students choose appropriate digital tools to express ideas clearly.	*Students communicate their refined learning goals through digital platforms, clearly expressing their learning path and tasks to peers and teachers.*
6c: Creative Communicator	Students communicate complex ideas clearly using digital media and visualizations.	*Using tools like digital backlogs or visual management tools, students organize and communicate their goals visually, ensuring clarity and collaboration with peers and teachers.*

P21 Framework for 21st-Century Learning Alignment

Table 8.1.2: P21 Framework Alignment

ISTE Standard	Standard Description	Refinement Routine Alignment
Critical Thinking	Students reason effectively and solve problems.	Students break down large problems into smaller, actionable goals and adjust them based on feedback, requiring effective reasoning and decision-making.
Collaboration	Students work effectively with others, demonstrating flexibility and shared responsibility.	Students collaborate with peers, receive feedback, and adjust goals based on group discussions, fostering shared ownership of the learning process.
Communication	Students articulate thoughts clearly through various forms of communication.	Students express their learning goals, provide rationale for adjustments, and seek feedback, enhancing clear communication skills.
Creativity and Innovation	Students use a wide range of idea-creation techniques and work creatively with others to develop new solutions.	The iterative nature of refinement allows students to explore multiple solutions to their learning goals, using creativity to adjust and innovate.
Self-Direction	Students set goals, monitor progress, and reflect independently.	Students take ownership of their learning by regularly revisiting their goals, reflecting on progress, and making adjustments based on feedback.
Flexibility and Adaptability	Students adapt to varied roles and learning environments, demonstrating flexibility in thinking and problem-solving.	Students adjust their backlog based on new information, feedback, or changes in their learning environment, becoming more flexible in approaching challenges.
Initiative	Students demonstrate initiative by setting goals and taking steps to meet them, persisting in the face of challenges.	Students take initiative by revisiting their backlog, setting new goals, and continuously working toward improvement, even when facing setbacks or challenges.
Accountability	Students demonstrate accountability by tracking progress and reflecting on outcomes.	Students hold themselves accountable for their learning by regularly tracking progress and reflecting on whether their backlog adjustments led to successful outcomes.

8.2 EVIDENCE-BASED IMPACT ON LEARNING

Refinement Routine is grounded in well-established psychological and educational theories that enhance self-regulation, academic achievement, and collaboration.

Table 8.2: Evidence-Based Impact on Learning

Theory/Research	Key Concepts	Refinement Routine Alignment
Self-Determination Theory (Deci & Ryan)	Autonomy, Competence, Relatedness	• **Autonomy**: Students make decisions about their learning goals, increasing ownership and responsibility. • **Competence**: Students gain confidence by managing their learning goals effectively during refinement. • **Relatedness**: Collaboration in refinement fosters connections with peers and the learning community.
Goal-Setting and Feedback (Locke & Latham)	Clear, specific, and challenging goals improve performance	Refinement encourages students to set clear, challenging goals and make iterative improvements based on feedback. This process reinforces a growth mindset while tracking progress using tools like the Learning Canvas.
Metacognition and Self-Regulated Learning (Flavell, Zimmerman)	Monitoring, adaptation, reflection	• **Monitoring**: Students track their progress toward learning goals. • **Adaptation**: They adjust strategies based on feedback. • **Reflection**: Through refinement, students evaluate the effectiveness of their goals and strategies.
Scaffolding and Zone of Proximal Development (Vygotsky)	Scaffolding, collaboration, peer support	Teachers and peers provide scaffolding within each student's Zone of Proximal Development (ZPD), gradually transferring responsibility as students demonstrate readiness. Collaborative refinement promotes problem-solving and skill development.
Formative Assessment (Black & Wiliam; Hattie & Timperley)	Continuous feedback improves learning outcomes	Refinement provides low-stakes, continuous feedback, allowing students to make real-time adjustments to their goals and strategies. Research emphasizes feedback as a key driver of learning.
Collaborative Learning and Well-Being (Bandura)	Peer feedback, shared responsibility, emotional resilience	Collaboration during refinement helps students develop teamwork skills and promotes emotional resilience through peer support and shared responsibility.
Flow State and Engagement (Csikszentmihalyi)	The balance between challenge and skill fosters a state of flow	Refinement helps students ensure their tasks match their skills, enabling them to enter a productive flow state, remain engaged, and sustain motivation.
Backwards Design (Wiggins & McTighe)	Define learning goals, determine evidence of learning	• **Define Goals:** Refinement begins by identifying and clarifying learning objectives, aligning with Backwards Design's focus on setting clear end goals. • **Determine Evidence:** Success criteria are collaboratively created for each goal, ensuring students know what achievement looks like.

8.3 TOOLS FOR THE REFINEMENT ROUTINE

The tools used in the Refinement Routine are designed to enhance clarity and collaboration, helping students and teachers prioritize, organize, and refine learning goals. These tools act as **learning radiators**, making goals and progress visible and actionable for everyone involved. By using these tools, students can better understand their learning objectives, align their efforts, and take ownership of their progress. Below are some of the commonly used tools:

Table 8.3: Tools For The Refinement Routine

Tool	Description
Learning Backlog Template	A downloadable template that organizes goals into three-time horizons: Next, Soon, and Later. This structure helps students prioritize and focus on immediate goals while keeping mid and long-term objectives visible. The Learning Backlog ensures goals are adaptable to changing needs. Download it from https://learn.agileclassrooms.com/artifact-learning-backlog.
Sticky Notes or Index Cards	Physical tools that allow students to write down and refine their learning goals. These notes can be organized into categories such as Next, Soon, and Later on a board, making prioritization and collaboration tactile and visible in the classroom.
Digital Tools	Platforms like Trello and Miro enable students to track and refine their learning goals digitally. These tools support remote or hybrid collaboration and ensure that updates and feedback are easily captured and shared. • Trello: https://trello.com • Miro: https://miro.com • Any spreadsheet tool like Google Sheets or Excel
Agile Learning Heads-Up Display (HUD)	A physical trifold board that combines the Learning Backlog and other Agile Classrooms Learning Artifacts. It acts as a collaborative, hands-on interface for students to interact with their goals and refine them iteratively. Learn how to set it up at https://methodsmentor.substack.com/p/heads-up-display.

8.4 SCRUM ROOTS AND INSPIRATION

The **Refinement Routine** in Agile Classrooms is inspired by **Product Backlog Refinement** from Scrum, where teams refine and prioritize tasks to ensure clarity and readiness for execution. However, in educational settings, adaptations are made to align with the core goal of learning and skill development rather than product development. Below is a comparison highlighting key similarities and differences:

Table 8.4: Agile Classrooms and Scrum Comparison For Refinement

Aspect	Product Backlog Refinement (Scrum)	Refinement Routine (Agile Classrooms)
Purpose	**Product-Focused**: Ensures Product Backlog items are clear, detailed, and ready for Sprint Planning, helping the Scrum Team deliver on the **Product Goal** and improve the product.	**Skill, Learning, and Collaboration-Focused**: Helps students clarify, organize, and prioritize their learning goals, fostering self-direction and collaboration while ensuring goals are actionable and aligned with success criteria.
Artifact	The **Product Backlog**, an emergent, ordered list of what is needed to improve the product, serves as the single source of work for the Scrum Team.	The **Learning Backlog**, a dynamic and prioritized list of learning goals, skills, and projects, serves as the central artifact for tracking and managing student growth and progress.
Goal Types	It focuses on **anything that improves the product**, such as new features, enhancements, or other deliverables required to meet the **product goal**. Skill development and personal growth are out of scope for the Product Backlog.	Broader and more diverse, including **learning goals** (e.g., mastering concepts), **skills goals** (e.g., collaboration or critical thinking), and **project goals** (e.g., completing a group presentation or design).
Participants	The **Product Owner** is accountable for the Product Backlog, while the **Scrum Team** (Developers) actively participates in refinement, breaking down items and providing estimates. The **Scrum Master ensures** refinement happens effectively, typically through education and facilitation.	The **teacher** may refine the Learning Backlog independently or collaborate with students, depending on the level of autonomy and responsibility assigned through the **Spectrum of Collaboration and Choice**. In community-based projects, stakeholders may also provide input.

Aspect	Product Backlog Refinement (Scrum)	Refinement Routine (Agile Classrooms)
Collaboration	The Scrum Team collaborates to refine Product Backlog items, ensuring shared understanding. **Developers** refine and size items, while the **Product Owner** provides context and direction. The **Scrum Master** facilitates as needed to ensure productive sessions.	Collaboration in the Refinement Routine depends on the **Spectrum of Collaboration and Choice**, where students may work with teachers or take on more responsibility as they develop self-direction and collaborative skills. Teachers adjust the level of involvement to support student growth.
Feedback and Iteration	Feedback is typically provided by the **Product Owner** and informed by stakeholders or users, ensuring that backlog items align with user needs. Stakeholders may be consulted as needed, depending on the product.	Feedback is primarily provided by teachers and peers, with students reflecting on their goals and progress. Stakeholders are typically not included, except in cases like project-based learning (PBL) or authentic community-based projects where external input is integral to the learning experience.

8.5 GLOSSARY OF KEY TERMS

Table 8.5: Agile Classrooms Glossary

Term	Definition
Agile	In the context of education, Agile refers to a set of practices and principles that promote adaptability, collaboration, and continuous improvement. It emphasizes flexibility in response to changing needs, self-directed learning, and regular reflection to enhance learning outcomes.
Agile Classrooms Framework	A 21st-century skills development framework that applies Agile methodologies to enhance student engagement, self-direction, collaboration, and adaptability in learning.
Refinement Routine	A routine focused on clarifying, prioritizing, and organizing goals in the Learning Backlog to ensure they are actionable and aligned with success criteria. It fosters the development of self-direction and collaboration as students refine their learning goals and strategies.
Learning Backlog	A prioritized list of learning goals, skills, or project deliverables that students aim to achieve over time. It serves as a flexible roadmap for students, helping them track and manage their progress while preparing goals for Learning Sprints.
Learning Sprint	A short, time-boxed period (typically 4 weeks or less) during which students work toward completing specific learning goals and project deliverables. Learning Sprints are iterative cycles designed to foster continuous improvement, and each Sprint includes five self-directed learning routines.
Spectrum of Choice	A framework that defines the progression of student autonomy in the Refinement Routine, moving from teacher-driven refinement to increasing levels of student ownership and decision-making based on their readiness and skill development.
Spectrum of Collaboration	A framework that outlines how collaboration evolves during the Refinement Routine, from teacher-led processes to collaborative student-teacher refinement and eventually student-led refinement.
Success Criteria	Specific, measurable indicators used to determine when a learning goal or skill has been achieved. Success criteria provide clarity and focus, guiding students in defining what success looks like for each goal in their Learning Backlog.
Learning Zones	A framework that consists of four zones guiding students toward greater responsibility and collaborative decision-making in their learning. In the Refinement Routine, these zones help teachers scaffold students' involvement in clarifying, prioritizing, and managing their goals.
Scaffolding	Support provided by teachers to guide students in the Refinement Routine, gradually reducing assistance as students develop the ability to manage and refine their own Learning Backlog independently.
Self-Direction	A competency developed through the Refinement Routine, where students take increasing responsibility for clarifying and prioritizing their learning goals and identifying strategies to achieve them.
Learning Artifacts	Tools such as the Learning Backlog, Learning Canvas, and Heads-Up Display support the Refinement Routine by making learning goals and progress visible, actionable, and accessible to students and teachers.

09

References

- Agile Classrooms. (n.d.). *Agile Educator Guide*. Retrieved from https://learn.agileclassrooms.com/agile-educator-guide
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits. *Psychological Inquiry*, 11(4), 227–268.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring. *American Psychologist*, 34(10), 906–911.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112.
- Locke, E. A., & Latham, G. P. (2002). Building a useful theory of goal setting and task motivation. *American Psychologist*, 57(9), 705–717.
- Partnership for 21st Century Skills (P21). (2007). *Framework for 21st Century Learning*. Retrieved from https://www.battelleforkids.org/networks/p21/frameworks-resources
- Sutherland, J., & Schwaber, K. (2020). *Scrum Guide*. Retrieved from https://scrumguides.org/scrum-guide.html
- Vygotsky, L. S. (1978). *Mind in society*. Harvard University Press.
- Zimmerman, B. J., & Schunk, D. H. (2001). *Self-regulated learning and academic achievement*. Lawrence Erlbaum Associates.

10

Further Learning and Final Thoughts

Want To Learn More?

Elevate your teaching practice with our immersive workshop designed for educators ready to integrate Agile methodologies into their classrooms. Gain hands-on experience and personalized coaching to implement Agile strategies effectively.

- **Explore Workshops**: https://learn.agileclassrooms.com/act
- **Access Resources**: https://learn.agileclassrooms.com/resources-agile-edu

Thank You, Dear Educator:

I'm thrilled to see you embracing Agile methodologies in your classroom. As the founder of Agile Classrooms, I've witnessed the transformative impact of these practices on student engagement and learning. By fostering a culture of collaboration, adaptability, and continuous improvement, you're empowering your students to thrive in an ever-changing world.

Remember, Agile Classrooms is a flexible framework designed to adapt to your unique context. Don't hesitate to experiment and innovate as you embark on this journey.

Thank you for your dedication to education. Together, we're shaping the future one Agile classroom at a time.

Warm regards,

John Miller

Founder, Agile Classrooms

john@agileclassrooms.com

ABOUT THIS GUIDE

This guide is a resource to inspire and support your teaching practice. Feel free to use it as is, modify it, or adapt parts to suit your classroom needs.

AGILE CLASSROOMS

www.agileclassrooms.com