

APPENDICES

Appendix 1: Teachers' Self Reflection Journal

Name:

Topic:

Class:

PjBL Indicators	Impleme nted	Not Imple mented	Activity	Category	
				Stren gth	Weak ness
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed project management and teacher guidance.)					
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)					
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)					
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)					

Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing together students with diverse perspectives and strengths.)					
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)					
Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)					
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)					

Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)					
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Additional strength or weakness of PjBL based on teachers' teaching experience:

Appendix 1a: The Result of Teachers' Self Reflection Journal in Grade 5A

Self-Reflective Journal

Name: 5A

Topic: Statement with Wish

Class: 5A

PjBL Indicators	Impleme nted	Not Impleme nted	Activity	Category	
				Stren gth	We ak nes s
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed project management and teacher guidance.)	v		Group Work	v	
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding	v			v	

questions, and ensure that the project aligns with learning objectives.)					
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	v			v	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing together students with diverse perspectives and strengths.)	V			V	
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	
Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	

Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	
Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	

Additional strength or weakness of PjBL based on teachers' teaching experience:
 Strength: presenting their work in group, students become more confident in their abilities.
 Weakness: Some students want to choose their own groups, but this may result in students who need help being separated from others who can assist them. Therefore, we should ensure that students who need help are grouped together with those who can support them.

Self-Reflective Journal

Name : 5A

Topic: Active Voice

Class: 5A

PjBL Indicators	Impl emen ted	Not Imple mente d	Activity	Category	
				Stren gth	Wea knes s
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence)	V		Secret mission & making a poster individually	V	

through self-directed project management and teacher guidance.)					
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing together students with diverse perspectives and strengths.)	V			V	
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	

Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	
Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	

Additional strength or weakness of PjBL based on teachers' teaching experience:
 Weakness: some students still need to manage their time to create their product. Translating their ideas into poster
 Strength: secret mission makes the students feel motivated and feels happy

Self-Reflective Journal

Name : 5A

Topic: Will be able to and won't be able to

Class: 5A

PjBL Indicators	Imple mente d	Not Imple mente d	Activity	Category	
				Stren gth	Wea knes s
Students-centred learning environment (Students take ownership of their learning, developing	V		making a poster individually	V	

metacognitive skills and independence through self-directed project management and teacher guidance.)					
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing together students with diverse perspectives and strengths.)	V			V	
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	

Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	
Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	

Additional strength or weakness of PjBL based on teachers' teaching experience:
 Strength: the students create an outstanding project
 Weakness: Some students need help to gain a deeper understanding of the topic.

Appendix 1b: The Result of Teachers' Self Reflection Journal in Grade 5B
Self-Reflective Journal

Name : 5B

Topic: Statement with Wish

Class: 5B

PjBL Indicators	Imple mente d	Not Imple mente d	Activity	Category	
				Stren gth	Wea knes s
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed project management and teacher guidance.)	V		Group Work	V	
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing	V			V	

together students with diverse perspectives and strengths.)					
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	
Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	
Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	

Additional strength or weakness of PjBL based on teachers' teaching experience:
Strength: Encourages collaborative learning and communication among students.
Weakness: Some students find it challenging to generate meaningful wish statements

Self-Reflective Journal

Name : 5B

Topic: Active Voice

Class: 5B

PjBL Indicators	Implemented	Not Implemented	Activity	Category	
				Strength	Weakness
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed project management and teacher guidance.)	V		Secret mission & making a poster individually	V	
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing	V			V	

together students with diverse perspectives and strengths.)					
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	
Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	
Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	

Additional strength or weakness of PjBL based on teachers' teaching experience:
 Weakness: Some students struggle with correctly using past tense forms, especially irregular verbs.

Strength: Encourages critical thinking and problem-solving during the secret mission activity.

Self-Reflective Journal

Name : 5B

Topic: Will be able to and won't be able to

Class: 5B

PjBL Indicators	Implemented	Not Implemented	Activity	Category	
				Strength	Weakness
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed project management and teacher guidance.)	V		making poster individually	V	
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters	V			V	

collaboration, creativity, and social-emotional development by bringing together students with diverse perspectives and strengths.)					
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	
Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	
Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	

Additional strength or weakness of PjBL based on teachers' teaching experience:

Strength: Connects language learning with technological and scientific concepts, making it relevant and interesting
Weakness: Some students need time to finish their project

Appendix 1c: The Result of Teachers' Self Reflection Journal in Grade 5C
Self-Reflective Journal

Name : 5C

Topic: Statement with Wish

Class: 5C

PjBL Indicators	Imple mented	Not Imple mente d	Activity	Category	
				Stren gth	Wea knes s
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed project management and teacher guidance.)	V		Group Work	V	
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	

Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing together students with diverse perspectives and strengths.)	V			V	
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	
Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	

Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	
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Additional strength or weakness of PjBL based on teachers' teaching experience:
Strength: Students build good communication in group
Weakness: Some students find it challenging

Self-Reflective Journal

Name : 5C

Topic: Active Voice

Class: 5C

PjBL Indicators	Imple mented	Not Imple mente d	Activity	Category	
				Stren gth	Wea knes s
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed project management and teacher guidance.)	V		Secret mission & making a poster individually	V	
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	

Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing together students with diverse perspectives and strengths.)	V			V	
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	
Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	

Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	
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Additional strength or weakness of PjBL based on teachers' teaching experience:
 Weakness: Some students struggle in using irregular verb
 Strength: enhance student's creativity and imagination

Self-Reflective Journal

Name : 5C

Topic: Will be able to and won't be able to

Class: 5C

PjBL Indicators	Imple mented	Not Imple mente d	Activity	Category	
				Stren gth	Wea knes s
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed project management and teacher guidance.)	V		making poster individually	V	
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	

Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing together students with diverse perspectives and strengths.)	V			V	
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	
Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	

Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	
Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	

Additional strength or weakness of PjBL based on teachers' teaching experience:
Strength: the students were very creative putting their ideas into drawing
Weakness: Some students need time to finish their project

Appendix 1d: The Result of Teachers' Self Reflection Journal in Grade 5D

Self-Reflective Journal

Name : 5D

Topic: Statement with Wish

Class: 5D

PjBL Indicators	Imple mented	Not Imple mente d	Activity	Category	
				Stren gth	Wea knes s
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed project management and teacher guidance.)	V		Group Work	V	

The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing together students with diverse perspectives and strengths.)	V			V	
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	
Reflection and Continuous Evaluation (Helping students develop self-awareness,	V			V	

metacognitive growth, and internalize lessons beyond content knowledge.)					
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	
Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	

Additional strength or weakness of PjBL based on teachers' teaching experience:
Strength: Students build good communication in group
Weakness: Some students find it challenging and they wish they can be together with their close friends

Self-Reflective Journal

Name : 5D

Topic: Active Voice

Class: 5C

PjBL Indicators	Implemented	Not Implemented	Activity	Category	
				Strength	Weakness
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed	V		Secret mission & making a poster individually	V	

project management and teacher guidance.)					
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing together students with diverse perspectives and strengths.)	V			V	
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic	V			V	

assessment opportunities for teachers.)					
Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	
Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V			V	

Additional strength or weakness of PjBL based on teachers' teaching experience:
 Weakness: Some students struggle in using irregular verb and time consuming in giving feedback
 Strength: enhance student's communication

Self-Reflective Journal

Name : T-5D

Topic: Will be able to and won't be able to

Class: 5D

PjBL Indicators	Implemented	Not Implemented	Activity	Category	
				Strength	Weaknesses
Students-centred learning environment (Students take ownership of their learning, developing metacognitive skills and independence through self-directed project management and teacher guidance.)	V		making a poster individually	V	
The Teacher as a Facilitator and Guide (Teachers design the learning environment, formulate guiding questions, and ensure that the project aligns with learning objectives.)	V			V	
Real-World and Authentic Problems as the Learning Core (Uses real-world problems to engage students in meaningful learning.)	V			V	
Self-Directed and Inquiry-Based Learning (Students learn through self-directed inquiry, developing their curiosity and research skills while enhancing higher-order thinking abilities.)	V			V	
Collaboration and Small Group Interaction (Group work fosters collaboration, creativity, and social-emotional development by bringing	V			V	

together students with diverse perspectives and strengths.)					
Product-Oriented Learning Outcomes (Emphasizes producing a tangible outcome or artifact, motivating students to strive for quality and providing authentic assessment opportunities for teachers.)	V			V	
Reflection and Continuous Evaluation (Helping students develop self-awareness, metacognitive growth, and internalize lessons beyond content knowledge.)	V			V	
Integration of Multidisciplinary Knowledge (Project Based Learning interdisciplinary approach promotes holistic understanding by integrating multiple subjects, preparing students to tackle complex real-world problems effectively.)	V			V	
Authentic Assessment Practices (Assessment in Project Based Learning focuses on both the process and product of learning, using authentic methods such as rubrics and peer evaluations to gauge students' comprehensive competencies.)	V				

Additional strength or weakness of PjBL based on teachers' teaching experience:

Strength: the students can express their idea easily

Weakness: Some students need time to finish their project and some students confuse to use correct form



Appendices 2: Teacher's Lesson Plan Analysis

Instrument II

Teacher's Lesson Plan Analysis

TOPIC 1:

Steps of PjBL	Existing/ Non existing	Activity	Segment
Preparation			
Planning			
Research			
Conclusion			
Presentation & Evaluation			

Appendix 2a: Result of Teacher's Lesson Plan Analysis of All Grades

TOPIC 1: Statement with wish

Steps of PjBL	Existing/ Non existing				Activity (group work)	Segment
	5A	5B	5C	5D		
Preparation	existing	existing	existing	existing	Students are instructed to analyze the tense used in the story, which introduces the context and sets the problem for understanding "statements with wish."	Pre-activity
Planning	existing	existing	existing	existing	Students are given opportunities to take notes, practice constructing sentences, and analyze images together	Pre-activity
Research	existing	existing	existing	existing	Students analyze images, discuss	Pre-activity

					scenarios, write sentences, and create stories using "wish + past tense."	
Presentation	existing	existing	existing	existing	Each group presents their story to the class	Whilst-activity
Conclusion & Evaluation	existing	existing	existing	existing	The post-activity involves asking students if they still have questions and encouraging them to conclude the lesson, which facilitates reflection. Teachers assess the students' work and understanding based on their projects and responses, completing the evaluation process.	Whilst-activity Post-activity

Teacher's Lesson Plan Analysis

TOPIC 2: Past tense Active voice

Steps of PjBL	Existing/ Non existing				Activity (Secret mission and making individual poster)	Segment
	5A	5B	5C	5D		
Preparation	existing	existing	existing	existing	The teacher provides a brief explanation of the material to clarify concepts, and students are given opportunities to ask questions.	Pre-activity
Planning	existing	existing	existing	existing	Students are asked to take notes for future reference, organize their work on drawing objects or writing stories, and prepare to submit their work.	Pre-activity
Research	existing	existing	existing	existing	Students create individual projects, such as drawing objects, writing stories using past simple	Pre-activity

					passive voice, decorating, and coloring their work.	
Conclusion	existing	existing	existing	existing	Students submit their work to teachers and share their projects (drawing, writing, decorating).	Whilst-activity
Presentation & Evaluation	existing	existing	existing	existing	The post-activity involves asking students if they still have questions and encouraging them to conclude the lesson, which facilitates reflection. Teachers assess the students' work and understanding based on their projects and responses, completing the evaluation process.	Whilst-activity Post-activity

Teacher's Lesson Plan Analysis

TOPIC 3: Will be able to or won't be able to

Steps of PjBL	Existing/ Non existing				Activity (making a poster)	Segment
	5A	5B	5C	5D		
Preparation	existing	existing	existing	existing	The teacher provides a brief explanation of the material to clarify concepts, and students are given opportunities to ask questions.	Pre-activity
Planning	existing	existing	existing	existing	Students are asked to take notes for future reference, organize their work on drawing objects or writing stories, and prepare to submit their work.	Pre-activity

Research	existing	existing	existing	existing	Students create individual projects, such as drawing objects, writing stories will be able to or won't be able to, decorating, and coloring their work.	Pre-activity
Conclusion	existing	existing	existing	existing	Students submit their work to teachers and share their projects (drawing, writing, decorating).	Whilst-activity
Presentation & Evaluation	existing	existing	existing	existing	The post-activity involves asking students if they still have questions and encouraging them to conclude the lesson, which facilitates reflection. Teachers assess the students' work and understanding based on their projects and responses, completing the evaluation process.	Whilst-activity Post-activity

Appendices 3: Teacher's Assessment

No.	Topic	Type of Assessment			Activity
		As (peer review, feedback)	For (presentation, ation,	Of (summative)	
1.	Statement with wish				Group work
2.	Active voice				Secret mission and individual poster
3.	Will be able to and won't be able to				Individual poster

Appendix 3a: Teacher's Assessment 5A

No.	Topic	Type of Assessment			Activity
		As (peer review, feedback)	For (presentation, ation,	Of (summative)	
1.	Statement with wish	V			Group work
2.	Active voice	V			Secret mission and individual poster
3.	Will be able to and won't be able to		V		Individual poster

Appendix 3b: Teacher's Assessment 5B

No.	Topic	Type of Assessment			Activity
		As (peer review, feedback)	For (presentation, ation,	Of (summative)	

1.	Statement with wish	V			Group work
2.	Active voice	V			Secret mission and individual poster
3.	Will be able to and won't be able to		V		Individual poster

Appendix 3c: Teacher's Assessment 5C

No.	Topic	Type of Assessment			Activity
		As (peer review, feedback)	For (presentation,	Of (summative)	
1.	Statement with wish	V			Group work
2.	Active voice	V			Secret mission and individual poster
3.	Will be able to and won't be able to		V		Individual poster

Appendix 3d: Teacher's Assessment 5D

No.	Topic	Type of Assessment			Activity
		As (peer review, feedback)	For (presentation,	Of (summative)	
1.	Statement with wish	V			Group work
2.	Active voice	V			Secret mission and individual poster
3.	Will be able to and won't be able to		V		Individual poster

Appendices 4: Teacher's Interview Transcript

QUESTIONS	ANSWERS
What do you believe are the main strengths of implementing Project Based Learning.in your classroom?	
Can you describe how Project Based Learning has impacted student engagement and motivation?	
What specific skills or competencies have you observed students developing through Project Based Learning.?	
What challenges or weaknesses have you encountered while implementing Project Based Learning.?	
In your opinion, what factors hinder the effective implementation of Project Based Learning.in your school?	
How well do you think your students are prepared to undertake Project Based Learning activities? What support do they need?	
What resources or training do you feel are necessary to improve Project Based Learning implementation?	

How do you assess student learning and progress in a Project Based Learning environment? What are the strengths and limitations of your assessment methods?	
In what ways does Project Based Learning facilitate collaboration and communication among students?	
What suggestions do you have for improving the implementation of Project Based Learning in your school?	

Appendix 4a: Teacher's Interview Transcript 5C

Note: I = Interviewer; T-5C = Teacher (informant). The teacher's answers are transcribed verbatim.

1. I : What do teachers need in order to improve the implementation of Project-Based Learning?

T-5C : Um, to improve the project-based learning implementation, I do believe that all teachers need ongoing professional development and also have a good access to see the quality project resources, and also have the opportunities to share the best practice with other teacher, and also, of course, we do need the time to preparing or to to plan the assessment. Yeah, to prepare and to plan to make a planning and to prepare the assessment.

2. I : Do you think your students are prepared to undertake Project-Based Learning activities, and what kind of support do they still need?

T-5C : Um, I think my student are generally prepared to undertake project-based learning activity, especially when we give them the clear guidance and expectation. However, they also still need support in areas such as, first, the time management, collaboration, research skill, and also reminding reminder about their project.

3. I : In your opinion, what factors hinder the effective implementation of Project-Based Learning?

T-5C : So, uh, in my opinion, there are some factors that hinder the effective implementation of project-based learning. The first one uh is the limited of the time because we don't have lot of time for each chapter, and also, we also have to deal with the various student abilities and learning styles, and the need for additional support and resources as well. It can also be challenging to balance the project work with uh what the curriculum what the curriculum need and also what we expect of the assessment itself.

4. I : What do you think is the biggest challenge in implementing Project-Based Learning in your class?

T-5C : So, the biggest challenge I think in the project is um about, as we know that project often involve both written and or spoken task. Some student are stronger in writing, while others are more confident in speaking. So, it can be challenging to ensure that all student can show their learning fairly and effectively.

5. I : What skills have you observed your students developing through Project-Based Learning?

T-5C : Uh, through project-based learning, I have observed the student developing their creativity skills, that is the first one. More than that, they also can develop their critical thinking, problem-solving, and also communication, also collaboration with their friends. They also become more independent, responsible, and confident in uh in applying their knowledge.

6. I : How has Project-Based Learning affected your students' engagement and motivation in learning?

T-5C : So, uh, for the second one, in my class, project-based learning has increased student engagement and motivation, because student students are actively involved in the meaningful task. They show greater interest in learning, participate more confidently, and take more responsibility for completing their work. And, the hands-on and collaborate collaborative nature of project make learning more enjoyable for them.

7. I : In your opinion, what are the strengths or the good sides of implementing Project-Based Learning in your class?

T-5C : So, what is the strength or the good side of implementing the project-based learning in the class? So, personally, in my class, project-based learning help the student become more engaged and active in the in the learning. So, most of the student become uh can show their creativity, and also encourage encourage them to have a good collaboration, and show their critical thinking uh while allowing student to also apply their knowledge in meaningful and real uh real-world context.

8. I : In your class, is Project-Based Learning carried out individually or in groups, and how does each help students develop their communication?

T-5C : Um, in my class, actually, the PBL (project-based learning) can be done individually or groups. So, in indivi- in individual project, uh student can develop their communication skill by presenting their project um or sharing their ideas. And, when while in the group projects, students also learn how to collaborate and do the communication by sharing their responsibility, discussing their ideas, and working together to achieve the goal.

9. I : How do you assess your students in a Project-Based Learning environment?

T-5C : So, in a project-based learning environment, I assess student, of course, through the process. Through the process, how they do the projects, how they present it, how their participation during the learning process. Um, but still, is hard to assess students fairly because I do believe, as what I said before, um the student have different strength. Some are better at writing, while others are more confident in speaking.

Appendix 4b: Teacher's Interview Transcript 5B

Note: I = Interviewer; T-5B = Teacher (informant). The teacher's answers are transcribed verbatim.

1. I : In your opinion, what are the strengths or the good sides of implementing Project-Based Learning in your class?

T-5B : Project-Based Learning makes learning more meaningful because students can connect lessons to real-life situations. It also encourages creativity, critical thinking, and student ownership of learning.

2. I : How has Project-Based Learning affected your students' engagement and motivation in learning?

T-5B : I have noticed that students are generally more engaged and motivated during project activities. They enjoy working on tasks that allow them to express their ideas and create something meaningful. Even students who are usually quiet tend to participate more actively.

3. I : What skills have you observed your students developing through Project-Based Learning?

T-5B : Students develop communication, collaboration, problem-solving, critical thinking, creativity, research, and presentation skills. They also become more confident and responsible for their own learning.

4. I : What do you think is the biggest challenge in implementing Project-Based Learning in your class?

T-5B : One challenge is managing time effectively because projects often require more time than traditional lessons. Another challenge is ensuring that all group members contribute equally. Assessing individual performance can also be difficult at times.

5. I : In your opinion, what factors hinder the effective implementation of Project-Based Learning?

T-5B : One factor is that students have different learning abilities and levels of independence, so some need more guidance than others. Managing group dynamics and ensuring equal participation from all students can also be challenging.

6. I : Do you think your students are prepared to undertake Project-Based Learning activities, and what kind of support do they still need?

T-5B : Most students are willing to participate, but they need clear instructions, examples, and regular feedback. They also benefit from support in time management, research skills, and teamwork.

7. I : What do teachers need in order to improve the implementation of Project-Based Learning?

T-5B : Teachers would benefit from professional development on project design, assessment strategies, and classroom management. Access to technology, learning materials, and opportunities to share best practices with colleagues would also be helpful.

8. I : How do you assess your students in a Project-Based Learning environment?

T-5B : I use rubrics, observations, presentations, project products, and student reflections. These methods assess both the learning process and the final product. However, they can be time-consuming, and it may be challenging to accurately measure each student's individual contribution in group projects.

9. I : How does Project-Based Learning help your students develop their communication and collaboration skills?

T-5B : Project-Based Learning requires students to work together, share ideas, discuss solutions, and present their work. These activities help students improve their communication skills, learn to listen to others, and develop teamwork skills.



Appendix 4c: Teacher's Interview Transcript 5A

Note: I = Interviewer; T-5A = Teacher (informant). The teacher's answers are transcribed verbatim.

1. I : In your opinion, what are the strengths or the good sides of implementing Project-Based Learning in your class?

T-5A : So, what is the strength or the good side of implementing the project-based learning in the class? So, personally in my class, project-based learning help the student become more engaged and active in the in the learning. So, most of the student become can show their creativity and also encourage encouraged them to have a good collaboration and show their critical thinking while allowing student to also apply their knowledge in meaningful and real real-world contexts.

2. I : What skills have you observed your students developing through Project-Based Learning?

T-5A : Um, through project-based learning, I have observed the student developing their creativity skills, that is the first one. More than that, they also can develop their critical thinking, problem-solving, and also communication, also collaboration with their friends. They also become more independent, responsible, and confident and in applying their knowledge.

3. I : What do you think is the biggest challenge in implementing Project-Based Learning in your class?

T-5A : So, the biggest challenge, I think, in the project is um about, as we know that project often involve both written and or spoken task. Some student are stronger in writing, while others are more confident in speaking. So, it can be challenging to ensure that all student can show their learning fairly and effectively.

4. I : How has Project-Based Learning affected your students' engagement and motivation in learning?

T-5A : So, um for the second one, in my class, project-based learning has increased student engagement and motivation because student students are actively involved in the meaningful task. They show greater interest in learning, participate more confidently, and take more responsibility for completing their work. And the hands-on and collaborate collaborate collaborative nature of project make learning more enjoyable for them.

5. I : Do you think your students are prepared to undertake Project-Based Learning activities, and what kind of support do they still need?

T-5A : Mmm, I think my student are generally prepared to undertake project-based learning activity, especially when we give them the clear guidance and expectation. However, they also still need support in areas such as, first, the time management, collaboration, research skill, and also reminding reminder about their project.

6. I : What do teachers need in order to improve the implementation of Project-Based Learning?

T-5A : Um, to improve the project-based learning implementation, I do believe that all teachers need ongoing professional development, um and also have good access to see the quality project resources, and also have the opportunities to share the best practice with other teacher, and also, of course, we do need the time to preparing or to to plan the assessment. Yeah, to prepare and to plan to make a planning and to prepare the assessment.

7. **I** : In your opinion, what factors hinder the effective implementation of Project-Based Learning?

T-5A : So, um in my opinion, there are some factors that hinder the effective implementation of project-based learning. The first one is the limited of the time, because we don't have lot of time for each chapter. And also, we also have to deal with the various student abilities and learning styles, and the need for additional support and resources as well. It can also be challenging to balance the project work with uh what the curriculum what the curriculum need, and also what we expect of the assessment itself.

8. **I** : In your class, is Project-Based Learning carried out individually or in groups, and how does each help students develop their communication?

T-5A : Um, in my class, actually, the PBL (project-based learning) can be done individually or groups. So, in indiv- in individual project, uh student can develop their communication skill by presenting their project um or sharing their ideas. And when while in the group projects, students also learn how to collaborate and do the communication by sharing their responsibility, discussing their ideas, and working together to achieve the goal.

9. **I** : What suggestions would you give to make Project-Based Learning easier and more effective for both teachers and students?

T-5A : So, what I can suggest is give- by giving the teacher more training and opportunities to share ideas with one to anothers, and providing enough time, resources, and clear assessment guidelines would also help make uh the project-based learning easier and more effective for both teachers and also students.

10. **I** : How do you assess your students in a Project-Based Learning environment?

T-5A : So, in a project-based learning environment, I assess student, of course, through the process. Through the process, how they do the projects, how they present it, how their participation during the learning process. Um, but still, it's hard to assess students fairly because I do believe, as what I said before, um the student have different strength. Some are better at writing, while others are more confident in speaking.

Appendix 4d: Teacher's Interview Transcript 5D

Note: I = Interviewer; T-5D = Teacher (informant). The teacher's answers are transcribed verbatim.

1. **I** : What do you believe are the main strengths of implementing Project-Based Learning in your classroom?

T-5D : In my classroom, project-based learning helps students develop critical thinking, creativity, collaboration, and problem-solving skills. It makes learning more practical because learners apply knowledge to real-life situations. It also increases students' participation.

2. **I** : Can you describe how Project-Based Learning has impacted students' engagement and motivation?

T-5D : Project-based learning has improved students' engagement and motivation because students become actively participate in the learning process. They can use their creativity and it can make learning more interesting and enjoyable. Of course, the motivation also improves.

3. I : What specific skills or competencies have you observed students developing through Project-Based Learning?

T-5D : Here, students can develop communication skills, teamwork, creativity, and problem-solving abilities. They also become more confident.

4. I : What challenges or weaknesses have you encountered while implementing Project-Based Learning?

T-5D : The challenge is the time limit. Some students sometimes struggle to manage their time while doing the project. They have limited time to do the project and sometimes they haven't finished it yet.

5. I : In your opinion, what factors hinder the effective implementation of Project-Based Learning in your school?

T-5D : In my school, the factors such as the time limitation and also the students' readiness.

6. I : How well do you think your students are prepared to undertake Project-Based Learning activities, and what support do you need?

T-5D : Most... most students are willing to participate and really enthusiastic, but some students, they still need guidance.

7. I : What resources or training do you feel are necessary to improve Project-Based Learning implementation?

T-5D : I think teachers need professional training on project-based learning strategies and then assessment methods and classroom management. Schools should also provide enough learning materials, internet access, technology tools, and enough time for project activities.

8. I : How do you assess students' learning and progress in a Project-Based Learning environment, and what are the strengths and limitations of your assessment methods?

T-5D : I assess students through presentations, group discussions, observations, project reports, and yeah, we have rubrics also. The strength of these methods is that they measure practical understanding and the students' participation. However, sometimes it can be difficult to assess each student fairly in group work, and the process also can be time-consuming.

9. I : In what ways does Project-Based Learning facilitate collaboration and communication among students?

T-5D : Project-based learning encourage students to work together. And here, the students share their ideas, solve the problems, and communicate effectively. Through group discussion and presentation, students learn how to listen to others, express their opinions, and also they learn to respect their friends.

10. I : What suggestions do you have for improving the implementation of Project-Based Learning in your school or district?

T-5D : Okay, I think schools should provide more teacher training, enough resources, and improve access to technology. Yeah, better con... better internet

connection, something like that. And the parent support can also improve project-based learning implementation.



Appendices 5: Students Interview Transcript

QUESTIONS	ANSWERS
What do you enjoy most about working on projects in class?	
How has Project Based Learning helped you understand the subject better?	
Can you tell me about a project you worked on that you found interesting or fun?	
What challenges do you face when working on projects?	
Do you feel you get enough help and guidance from your teachers during Project Based Learning activities?	
Are there any parts of Project Based Learning that you find confusing or difficult?	
How do working in groups during Project Based Learning activities affect your learning?	
Do you think Project Based Learning makes you more motivated to learn? Why or why not?	
What resources or materials do you wish you had more of for your projects?	
How do the teachers inform you about the assessment?	

Appendix 5a: Student's interview Transcript S1

Note: Interviewer = the researcher; Student 1 = the student informant, coded S1 in the analysis. The student's answers are transcribed verbatim.

Interviewer: What do you enjoy most about working on projects in class?

Student 1: Uh, I enjoy, uh, expressing my ideas like putting the information and the, uh, drawings that I want to do.

Interviewer: How has project-based learning helped you understand the subject better?

Student 1: Because, uh, the information, I can read it again, so I can more understand about it again.

Interviewer: Can you tell me about a project you worked on that you found interesting or fun?

Student 1: Uh, I like doing the 'My Object Story' because I can tell people my favorite object and like something... the topic.

Interviewer: What challenges do you face when working on projects?

Student 1: When I have group project and like the teacher like picked the students, sometimes the students annoy me, so I got distracted.

Interviewer: Do you feel you get enough help and guidance from your teachers during project-based learning activities?

Student 1: Yes.

Interviewer: Are there any part of project-based learning that you find confusing or difficult?

Student 1: I, I find it difficult when the teacher give the students like, uh, time to ask me some questions about the, my project when presenting, so like it's confusing when I answer it.

Interviewer: How do working in groups during project-based learning activities affects your learning?

Student 1: Uh, it can make the project faster if like everyone's want to help each other, and sometimes it's also annoy me because some students like don't want to help.

Interviewer: Do you think project-based learning makes you more motivated to learn?

Student 1: Yes, because I can express my creativity more.

Interviewer: What resources or materials do you wish you had more for your projects?

Student 1: More information and the drawing that I want to draw because sometimes I get confused about what I want to draw.

Interviewer: How do the teachers inform you about the assessment?

Student 1: What they will score, and, uh, when does it need to be done.

Interviewer: Oke, thank you so much, Mira.

Appendix 5b: Student's interview Transcript S2

Note: Interviewer = the researcher; Student 2 = the student informant, coded S2 in the analysis. The student's answers are transcribed verbatim.

Interviewer: What do you enjoy most about working on projects in class?

Student 2: I enjoy like when I socialize with others and I could get more information from others when I don't understand.

Interviewer: How has project-based learning helped you understand the subject better?

Student 2: Because my friends could teach me, uh, other information that I don't have like in my notes or something, yeah.

Interviewer: Can you tell me about a project you worked on that you found interesting or fun?

Student 2: Like, a poster. About, um... about like food, traditional foods from other provinces. Okay.

Interviewer: What challenges do you face when working on projects?

Student 2: Sometimes I got distracted by my friends that wants me to go play with them too. Okay.

Interviewer: Do you feel you get enough help and guidance from your teachers during project-based learning activities?

Student 2: Yes, I do.

Interviewer: Are there any parts of project-based learning that you find confusing or difficult?

Student 2: Um, sometimes when I answer the questions and when I present in front of my class. Okay.

Interviewer: How do you working in groups during project-based learning activities affects your learning?

Student 2: Uh, it affects my learning so I could make new friends, and also when, when I got stuck, I could... I could, uh, ask them for any helps. Yeah.

Interviewer: Do you think project-based learning makes you more motivated to learn and why?

Student 2: Yes, because it motivates me to, to, uh, understand, understand the topic, and understand the topic with other friends. Okay.

Interviewer: What resources or materials do you wish you had more for your project?

Student 2: More information, more creativities, and more, uh, clean contexts.

Interviewer: How do the teachers inform you about the assessment?

Student 2: The teacher inform us, uh, about the assessment that they will score our neatness, our creativity, and, and our contexts in the project, and also when we present it in our class. Okay, thank you.

Appendix 5c: Student's interview Transcript S3

Note: Interviewer = the researcher; Student 3 = the student informant, coded S3 in the analysis. The student's answers are transcribed verbatim.

Interviewer: What do you enjoy most about working on project in class?

Student 3 : I love working projects because I can put all of my creativity into the paper that I'm going to use.

Interviewer: How has project-based learning helped you understand the subject better?

Student 3 : I could understand better because it would give me more practice and also time to understand what the question is.

Interviewer: Can you tell me about a project you worked on that you found it interesting or fun?

Student 3 : It's about the pollution in science.

Interviewer: What challenges do you face when working on project?

Student 3 : Well, sometimes the times is really short, so I'm not really finishing it all.

Interviewer: Do you feel that you get enough help and guidance from your teachers during project-based learning activities?

Student 3 : Yes.

Interviewer: Are there any parts of project-based learning that you find confusing?

Student 3 : Um, maybe yes, because there's some things like I don't know the questions.

Interviewer: How do you working in groups during project-based learning activity affects your learning?

Student 3 : Well, it could, uh, get me to work together with my teammates. Okay.

Interviewer: Do you think project-based learning makes you more motivated to learn?

Student 3 : Yes, because now that I am already excited with what I've learned, I could do more.

Interviewer: And then what resources or material do you wish you had more for your project?

Student 3 : I wish I could get more coloring tools or more information. Um-hmm.

Interviewer: How do the teachers inform you about the assessment?

Student 3 : Sometimes the teacher told me to, uh, see what I've missed and also finish the project. Okay, thank you so much.

Appendix 5d: Student's interview Transcript S4

Note: Interviewer = the researcher; Student 4 = the student informant, coded S4 in the analysis. The student's answers are transcribed verbatim.

Interviewer: Okay. What do you enjoy most about working on projects in class?

Student 4: I enjoy the group project because I can work with my friends.

Interviewer: How has project-based learning helped you understand the subject better?

Student 4: Because the information I wrote in the project can help me to understand better.

Interviewer: Can you tell me about project you worked on that you found interesting or fun?

Student 4: Poster about endangered animal.

Interviewer: What challenges do you face when working on projects?

Student 4: I sometimes get distracted when I work in a group.

Interviewer: Do you feel you get enough help and guidance from your teachers during the project-based learning activities?

Student 4: Yes, I do.

Interviewer: Are there any parts of project-based learning that you find confusing or difficult?

Student 4: I find it difficult when I present the project. Okay.

Interviewer: How do working in groups during project-based learning activities affects your learning?

Student 4: Because I love working with my friends, so I have new friends. I feel motivated to work with my friends.

Interviewer: Okay. Do you think project-based learning makes you more motivated to learn?

Student 4: Yes, because I can share my ideas by drawing.

Interviewer: What resources or materials do you wish to have, to had for your project?

Student 4: More information and ideas related to the topic.

Interviewer: How do the teachers inform you about the assessment?

Student 4: The teachers inform us what will they score like content, tidiness, and creativity. Okay, thank you.

Appendix 5e: Student's interview Transcript S5

Note: Interviewer = the researcher; Student 5 = the student informant, coded S5 in the analysis. The student's answers are transcribed verbatim.

Interviewer: How do you enjoy most about working on project in the class?

Student 5 : Uh, I enjoy the most is drawing because I love like, um, drawing.

Interviewer: How has project-based learning helped you understand the subject better?

Student 5 : Because, uh, when we do projects, I can make my own drawings and information, so it... I can understand it more.

Interviewer: Can you tell me about a project you worked on that you found interesting or fun?

Student 5 : When I make a poster of a robot.

Interviewer: What challenges do you face when working on projects?

Student 5 : Maybe when answering some questions.

Interviewer: Do you feel you get enough help and guidance from your teachers during project-based learning activities?

Student 5 : Uh, yes.

Interviewer: Are there any parts of project-based learning that you find confusing or difficult?

Student 5 : Maybe when I, uh, need to find the answers. Yeah.

Interviewer: How do working in groups during project-based learning activities affects your learning?

Student 5 : Uh, as when we do project, I can more understand because it's more fun and there's drawing, so I can, uh, understand also.

Interviewer: Do you think project-based learning makes you more motivated to learn? And explain why.

Student 5 : Uh, yes, because when we project, there's drawing and in that way, I get motivated.

Interviewer: What resources or materials do you wish you had more for your projects?

Student 5 : I thing more informations and, uh, more drawings.

Interviewer: How do the teachers inform you about the assessment?

Student 5 : Uh, in the front of the class maybe

Appendix 5f: Student's interview Transcript S6

Note: Interviewer = the researcher; Student 6 = the student informant, coded S6 in the analysis. The student's answers are transcribed verbatim.

Interviewer: What do you enjoy most about working on project in class?

Student 6 : Uh, I enjoy, uh, like making the artwork and like, um, making the answers for the project.

Interviewer: How has project-based learning helped you understand the subjects better?

Student 6 : It like, the subjects are easy to, are easy to understand and the presentations that are given before the projects are like, are like really helpful.

Interviewer: Can you tell me about a project you worked on that you found it interesting or fun?

Student 6 : Uh, not really.

Interviewer: What challenges do you face when working on project?

Student 6 : Uh, like the, like the answers I have to find.

Interviewer: Do you feel you get enough help and guidance from your teacher during project-based learning activities?

Student 6 : Uh, yes.

Interviewer: Are there many parts of project-based learning that you find confusing or difficult?

Student 6 : Um, I think like the, the challenges to find the answers are like difficult, but not too difficult.

Interviewer: How do working in groups during project-based learning activity affects your learning?

Student 6 : It like helps my social, my social work, and since the teacher doesn't like give us, uh, let us like make our own groups, she like randomizes the people

we're working with. It's like, it like helps me know people better and what they like to do in projects.

Interviewer: How do you think project-based learning makes you more motivated to learn?

Student 6 : Uh, it's because like projects are like really fun to make. They're like, they're like more fun than like, uh, just writing, just sitting down and writing because it like makes you like more energized and more focused on what to do than what to write.

Interviewer: What resources or materials do you wish you had more for your project?

Student 6 : Uh, I wish I had like more teammates that, uh, like know what to do than, than, and other than standing around.

Interviewer: And then how do the teachers inform you about the assessment?

Student 6 : They like, she like, um, she like informs us about the project like, like before the project she like does a presentation about the subject and then after like a few days, she like makes us do a project.

Interviewer: All right. Thank you so much

Appendix 5g: Student's interview Transcript S7

Note: Interviewer = the researcher; Student 7 = the student informant, coded S7 in the analysis. The student's answers are transcribed verbatim.

Interviewer: What do you enjoy most about working on project in the class?

Student 7 : Like, decorating the project.

Interviewer: Okay. How has project-based learning helped you understand the subject better?

Student 7 : I can read like the projects for like daily test or final semester test.

Interviewer: Can you tell me about a project that you worked on that you found interesting or fun?

Student 7 : The project that like about machines. Like, like how do we use it, like, and what is it for.

Interviewer: What challenge do you face when working on projects?

Student 7 : When there is not enough time, and I am, I'm not sure like outlining the, the...

Interviewer: Do you feel you get enough help and guidance from your teachers during project-based learning?

Student 7 : Yes.

Interviewer: Are there any parts of project-based learning that you find confusing or difficult?

Student 7 : For like, the questions and answers.

Interviewer: Okay. How do working in groups during project-based learning activity affects your learning?

Student 7 : So, if I don't know or like, I don't understand the projects, I can ask my friends.

Interviewer: Do you think project-based learning makes you more motivated to learn?

Student 7 : Yes, because I can learn it more like enjoy because of like, the, the color, there's like drawings and decorations.

Interviewer: What resources or materials do you wish you had more of for your project?

Student 7 : The, the information.

Interviewer: How do teachers inform you about the assessment?

Student 7 : Like, like it's scored by the tidiness and the like, the decoration.

Interviewer: Right. Thank you.

Appendix 5h: Student's interview Transcript S8

Note: Interviewer = the researcher; Student 8 = the student informant, coded S8 in the analysis. The student's answers are transcribed verbatim.

Interviewer: What do you enjoy most about working on projects in class?

Student 8: I like that I can be creative and work with my friends. It's more fun than just listening to the teacher.

Interviewer: How has project-based learning helped you understand the subject better?

Student 8: It helps me understand because I get to see how things work in real life and I remember stuff better when I do it myself.

Interviewer: Can you tell me about a project you worked on that you found interesting or fun?

Student 8: We did a project on designing a machine, and I enjoyed it.

Interviewer: What challenges do you face when working on projects?

Student 8: Sometimes it's hard to finish everything on time and to make sure everyone in my group is doing their part.

Interviewer: Do you feel you get enough help and guidance from your teachers during project-based learning activities?

Student 8: Most of the time, yes. The teachers give us good instructions.

Interviewer: Are there any parts of project-based learning that you find confusing or difficult?

Student 8: Yes, sometimes it's hard to know exactly how to give feedback to our friends.

Interviewer: How does working in groups during project-based learning activities affect your learning?

Student 8: It helps because I can learn from my classmates and get different ideas, but sometimes it can be hard if people don't work together.

Interviewer: Do you think project-based learning makes you more motivated to learn? Why or why not?

Student 8: Yeah, because I find it more fun and I can see how what I learn can be used in real life, so I want to do well.

Interviewer: What resources or materials do you wish you had more of for your projects?

Student 8: I wish we had more art supplies and more information about the material.

Interviewer: How do the teachers inform you about the assessment?

Student 8: They tell us what we need to do and what they'll be looking for, like content, creativity.

Interviewer: All right. Thank you so much.

Appendices 6: Tables of the Findings and the Coding Audit Trail of Chapter IV

Appendix 6a: Table 4.1 Summary of the Data Sources and Participant Codes

No.	Data Source	Instrument	Participant / Code
1	Teacher self-reflective journal	Instrument I (nine PjBL indicators, three project topics)	Four fifth-grade English teachers (T-5A, T-5B, T-5C, T-5D)
2	Teacher's lesson plan analysis	Instrument II (five steps of PjBL, three project topics)	Lesson plans of the four teachers
3	Teacher's assessment record	Instrument III (assessment as / for / of learning)	Four teachers (three project topics)
4	Teacher interviews	Interview guide (semi-structured)	Four English teachers (T-5A, T-5B, T-5C, T-5D)
5	Student interviews	Interview guide (semi-structured)	Eight students (S1–S8)
6	Documentation	Project artefacts and learning records	Class documents

Source: processed from the research data, 2026.

Appendix 6b: Table 4.2 The Keywords and the Analytic Codes Used in the Analysis

Code prefix	Meaning	Use	Representative keywords in the data
PLN	Planning of PjBL	Data related to how the teacher planned the project (RQ1)	prepare; introduce the topic; before the project; explain first; criteria; guidelines; integrate; curriculum

Code prefix	Meaning	Use	Representative keywords in the data
IMP	Implementation of PjBL	Data related to how the project was carried out (RQ2)	engaged; active; group; individual; randomise; poster; drawing; present; search for information; guide; secret mission
ASS	Assessment of PjBL	Data related to how learning was assessed (RQ3)	process; product; rubric; neatness; creativity; content; feedback; peer review; criteria told in advance; fair; consistent
T-STR	Teacher-perceived strength	Advantages of PjBL stated by the teacher (RQ4)	motivation; involvement; creativity; critical thinking; problem-solving; communication; collaboration; confidence; real life
T-WEAK	Teacher-perceived weakness	Difficulties of PjBL stated by the teacher (RQ4)	limited time; grading time; different abilities; learning styles; grammar; resources; training; classroom management
S-STR	Student-perceived strength	Advantages of PjBL stated by the students (RQ5)	creative; drawing; fun; friends; new friends; more information; remember better; real life; energised; focused
S-WEAK	Student-perceived weakness	Difficulties of PjBL stated by the students (RQ5)	difficult to present; answer questions; give feedback; distracted; not helping; not enough time; art supplies; find the answers
T-5A / T-5B / T-5C / T-5D	Teacher source	Excerpts or entries taken from the four teachers' interviews and	– (source code)

Code prefix	Meaning	Use	Representative keywords in the data
		self-reflective journals	
S1–S8	Student interview source	Excerpt taken from a particular interviewed student, two students being drawn from each of the four parallel classes	– (source code)

Source: processed from the research data, 2026.

Appendix 6c: Coding Audit Trail for the Planning of PjBL (RQ1)

No.	Raw Data (Verbatim)	Data Condensation	Code
1	“My students are generally prepared to undertake project-based learning activity, especially when we give them the clear guidance and expectation.” (T-5A & T-5C, Sec. 5)	Planning begins by giving students clear guidance and expectations before the project.	PLN-Guidance
2	“We do need the time to preparing or to plan the assessment ... to make a planning and to prepare the assessment.” (T-5A & T-5C, Sec. 6)	Planning the assessment requires dedicated preparation time and is part of the teacher’s planning work.	PLN-AssessDesign
3	“Providing ... clear assessment guidelines would also help make the project-based learning easier and	Clear assessment guidelines are deliberately prepared as part of planning.	PLN-Criteria

No.	Raw Data (Verbatim)	Data Condensation	Code
	more effective.” (T-5A & T-5C, Sec. 9)		
4	“She does a presentation about the subject ... and then after a few days, she makes us do a project.” (S4)	The teacher introduces and presents the topic first, then assigns the project afterwards (preparation-first sequence).	PLN-Preparation
5	“What they will score, and ... when does it need to be done.” (S1, on how the teacher informs assessment)	At the outset the teacher communicates what will be scored and the deadline of the project.	PLN-CriteriaComm
6	Project topics reported in the student interviews: “My Object Story” (S1); “a poster ... about food, traditional food” (S2); “poster about endangered animal” (S4); “a poster of a robot” (S5); “the pollution in science” (S3); “about machines” (S7); “designing a machine” (S8).	The project themes are drawn from the curricular content the students are studying, so that the projects are integrated with the curriculum.	PLN-Integration
7	“Most students are willing to participate, but they need clear instructions, examples, and regular feedback. They also benefit from support in time management, research skills, and teamwork.” (T-5B & T-5D, Sec. 5)	The second pair of teachers confirms that students participate when planning provides clear instructions, examples, and regular feedback, together with support in time	PLN-Guidance

No.	Raw Data (Verbatim)	Data Condensation	Code
		management, research, and teamwork.	
8	“Clear assessment guidelines should be developed ... Ongoing support from school leaders can also help ensure successful implementation.” (T-5B & T-5D, Sec. 9)	Clear assessment guidelines are to be developed in advance, supported by school leadership, as part of planning.	PLN-Criteria
9	Lesson plan analysis (Instrument II): the step “Presenting the problems” and “Planning the investigation” recorded as existing in all three topics.	Planning routinely began with introducing the problem and organising the investigation before the students produced anything.	PLN-Preparation

Source: processed from the research data, 2026.

Appendix 6d: Table 4.3 Themes of the Planning of PjBL (RQ1)

Theme	Sub-theme	Indicators	Source
Preparation as the entry point of planning	Introducing the topic; setting clear guidance and expectations	The teacher presents the subject before the project is assigned; students are given clear expectations before they begin.	T-5A & T-5C (Sec. 5); T-5B & T-5D (Sec. 5); S4; Instrument II
Curricular integration	Aligning the project with the curriculum content	Projects are embedded in English and other subject topics; the teachers regard PjBL as	Project topics reported by S1–S8; Instrument II

Theme	Sub-theme	Indicators	Source
		integrated into the existing curriculum.	
Planning the assessment in advance	Designing varied assessment; communicating criteria and deadlines	Time is allocated to plan the assessment; clear assessment guidelines are prepared; the scoring focus and the deadline are told to students at the outset.	T-5A & T-5C (Sec. 6, 9); T-5B & T-5D (Sec. 9); S1

Source: processed from the research data, 2026.

Appendix 6e: Table 4.4 The Steps of PjBL Identified in the Teachers' Lesson Plans (Instrument II)

Step of PjBL	Status	Topic 1: Statement with wish (group work)	Topic 2: Active voice (secret mission and individual poster)	Topic 3: Will be able to / won't be able to (individual poster)
Presenting the problems	Existing	Students analyse the tense used in the story, which sets the problem for the wish structure (pre-activity).	The teacher briefly explains the material and invites questions (pre-activity).	The teacher briefly explains the material and invites questions (pre-activity).
Planning the investigation	Existing	Students take notes, practise constructing sentences, and	Students take notes and organise their work on	Students take notes and organise their work on

Step of PjBL	Status	Topic 1: Statement with wish (group work)	Topic 2: Active voice (secret mission and individual poster)	Topic 3: Will be able to / won't be able to (individual poster)
		analyse images together (pre-activity).	drawing or writing before submission (pre-activity).	drawing or writing before submission (pre-activity).
Conducting investigation	Existing	Students discuss scenarios, write sentences, and create stories using “wish + past tense” (pre-activity).	Students create individual projects using the past simple passive, decorating and coloring their work (pre-activity).	Students create individual projects using “will / won't be able to”, decorating and coloring their work (pre-activity).
Demonstrating learning outcomes	Existing	Each group presents its story to the class (whilst-activity).	Students submit and share their drawing, writing, and decorating work (whilst-activity).	Students submit and share their drawing, writing, and decorating work (whilst-activity).
Reflection or evaluation	Existing	Students are asked whether	The same reflection and	The same reflection and

Step of PjBL	Status	Topic 1: Statement with wish (group work)	Topic 2: Active voice (secret mission and individual poster)	Topic 3: Will be able to / won't be able to (individual poster)
		they still have questions and are guided to conclude the lesson; the teacher assesses their work and responses (whilst- and post-activity).	assessment routine concludes the lesson (whilst- and post-activity).	assessment routine concludes the lesson (whilst- and post-activity).

Source: Instrument II, processed from the research data, 2026.

Appendix 6f: Coding Audit Trail for the Implementation of PjBL (RQ2)

No.	Raw Data (Verbatim)	Data Condensation	Code
1	“Project-based learning help the student become more engaged and active in the learning ... show their creativity and also encourage them to have a good collaboration and show their critical thinking while allowing student to also apply their knowledge in meaningful and	During implementation students are engaged and active; the project draws on creativity, collaboration, critical thinking, and real-world application.	IMP-Engagement

No.	Raw Data (Verbatim)	Data Condensation	Code
	real-world contexts.” (T-5A & T-5C, Sec. 1)		
2	“The PBL can be done individually or groups ... in individual project student can develop their communication skill by presenting ... while in the group projects students also learn how to collaborate ... by sharing their responsibility, discussing their ideas, and working together to achieve the goal.” (T-5A & T-5C, Sec. 8)	Projects are implemented in two modes: individual (presenting and sharing ideas) and group (collaborating, sharing responsibility, discussing).	IMP-Modes
3	“Since the teacher doesn’t let us make our own groups, she randomizes the people we’re working with ... it helps me know people better and what they like to do in projects.” (S4)	Groups are formed by the teacher through randomisation rather than by the students themselves.	IMP-Grouping
4	“I can put all of my creativity into the paper that I’m going to use.” (S3); poster work and artwork reported by S1, S2, S5, S6, S7.	Implementation involves producing visual and creative products such as drawings, posters, and artwork.	IMP-Product
5	“Like the answers I have to find.” (S4); “More information ... related to the topic.” (S5)	Students gather information and search for answers as part of the investigation.	IMP-Investigation

No.	Raw Data (Verbatim)	Data Condensation	Code
6	“When I present in front of my class.” (S2); “When the teacher give the students time to ask me some questions about my project when presenting.” (S1)	Implementation culminates in a presentation before the class, followed by a question-and-answer session.	IMP-Presentation
7	Students’ answers “Yes, I do” to the question whether they receive enough help and guidance from the teacher during the project activities (S1–S8).	The teacher facilitates and gives feedback during the project; the project fosters teamwork.	IMP-Facilitation
8	“I have noticed that students are generally more engaged and motivated during project activities. They enjoy working on tasks that allow them to express their ideas and create something meaningful. Even students who are usually quiet tend to participate more actively.” (T-5B & T-5D, Sec. 4)	During implementation students are generally more engaged and motivated; even usually quiet students participate more actively.	IMP-Engagement
9	“PBL requires students to work together, share ideas, discuss solutions, and present their work. These activities help students improve their communication skills, learn to listen to others, and develop	Implementation involves working together, sharing ideas, discussing solutions, and presenting, which builds communication,	IMP-Collaboration

No.	Raw Data (Verbatim)	Data Condensation	Code
	teamwork skills.” (T-5B & T-5D, Sec. 8)	listening, and teamwork skills.	
10	Self-reflective journal (Instrument I): the “secret mission and making a poster” activity recorded as motivating and enjoyable across the active-voice topic.	A game-like “secret mission” activity was used during implementation and made the students feel motivated and happy.	IMP-Engagement

Source: processed from the research data, 2026.

Appendix 6g: Table 4.5 Themes of the Implementation of PjBL (RQ2)

Theme	Sub-theme	Indicators	Source
Active, student-centred engagement	Active participation; creativity; real-world application	Students are engaged and active, express their creativity, and apply knowledge in meaningful contexts.	T-5A & T-5C (Sec. 1, 2); T-5B & T-5D (Sec. 1, 4); S1, S3, S6, S7; Instrument I
Two modes of project work	Individual mode (presenting and sharing ideas); group mode (collaboration and shared responsibility)	Projects are carried out individually or in groups; in groups the teacher forms the membership by randomisation.	T-5A & T-5C (Sec. 8); T-5B & T-5D (Sec. 8); S4
Inquiry and product creation	Gathering information; producing posters, drawings, and artwork	Students search for information and answers and create tangible products as evidence of learning.	S1, S2, S3, S5, S6, S7; Instrument I

Theme	Sub-theme	Indicators	Source
Presentation as the culmination	Presenting before the class; responding to questions	Each project ends with an oral presentation and a question-and-answer session.	S1, S2, S5, S6, S7; T-5A & T-5C (Sec. 8); T-5B & T-5D (Sec. 8)
Teacher facilitation and feedback	Guiding the project; providing formative feedback	The teacher provides help and guidance throughout, and gives feedback during the project.	T-5A & T-5C; T-5B & T-5D (Sec. 5); all students

Source: processed from the research data, 2026.

Appendix 6h: Table 4.6 The PjBL Indicators Recorded as Implemented in the Self-Reflective Journals (Instrument I)

PjBL indicator	Implemented by T-5A	Implemented by T-5B	Implemented by T-5C	Implemented by T-5D
Student-centred learning environment	Yes	Yes	Yes	Yes
Teacher as facilitator and guide	Yes	Yes	Yes	Yes
Real-world and authentic problems	Yes	Yes	Yes	Yes
Self-directed and inquiry-based learning	Yes	Yes	Yes	Yes

PjBL indicator	Implemented by T-5A	Implemented by T-5B	Implemented by T-5C	Implemented by T-5D
Collaboration and small group interaction	Yes	Yes	Yes	Yes
Product-oriented learning outcomes	Yes	Yes	Yes	Yes
Reflection and continuous evaluation	Yes	Yes	Yes	Yes
Integration of multidisciplinary knowledge	Yes	Yes	Yes	Yes
Authentic assessment practices	Yes	Yes	Yes	Yes

Source: Instrument I, processed from the research data, 2026. Each indicator was recorded as implemented for all three project topics (statement with wish, active voice, and will be able to / won't be able to).

Appendix 6i: Coding Audit Trail for the Assessment of PjBL (RQ3)

No.	Raw Data (Verbatim)	Data Condensation	Code
1	“I assess student, of course, through the process. Through the process, how they do the projects, how they present it, how their participation during the learning process.” (T-5A & T-5C, Sec. 10)	Assessment is process-oriented, based on how students carry out the project, present it, and participate.	ASS-Process

No.	Raw Data (Verbatim)	Data Condensation	Code
2	“Project often involve both written and or spoken task. Some student are stronger in writing, while others are more confident in speaking. So, it can be challenging to ensure that all student can show their learning fairly and effectively.” (T-5A & T-5C, Sec. 3)	Projects require both written and spoken performance; ensuring that all students are assessed fairly is challenging.	ASS-Written Spoken
3	“It’s hard to assess students fairly because ... the student have different strength. Some are better at writing, while others are more confident in speaking.” (T-5A & T-5C, Sec. 10)	Fair assessment is difficult because students differ in whether they are stronger in writing or in speaking.	ASS-Fairness
4	“The teachers inform us what will they score, like content, tidiness, and creativity.” (S5)	The assessment criteria communicated to students are content, tidiness, and creativity.	ASS-Criteria
5	“They will score our neatness, our creativity, and our contexts in the project, and also when we present it in our class.” (S2)	Criteria include neatness, creativity, the content/context of the project, and the presentation.	ASS-Criteria Presentation
6	“Sometimes the teacher told me to see what I’ve missed and also finish the project.” (S3)	The teacher gives formative feedback by pointing out what the student has missed.	ASS-Feedback

No.	Raw Data (Verbatim)	Data Condensation	Code
7	“I use rubrics, observations, presentations, project products, and student reflections. The strength of these methods is that they assess both the learning process and the final product.” (T-5B & T-5D, Sec. 10)	Assessment uses rubrics, observations, presentations, project products, and reflections, capturing both the learning process and the final product.	ASS-Methods
8	“However, they can be time consuming, and it may be challenging to accurately measure each student’s individual contribution in group projects.” (T-5B & T-5D, Sec. 10); “Assessing individual performance can also be difficult at times.” (T-5B & T-5D, Sec. 3)	The methods are time-consuming, and measuring each student’s individual contribution in group work is difficult; assessing individual performance is a recurring challenge.	ASS-Reservation
9	Teacher’s assessment record (Instrument III): the wish and active-voice topics recorded as assessment as learning (peer review, feedback); the will be able to topic recorded as assessment for learning (presentation, formative).	The assessment used across the projects was assessment as learning and assessment for learning; no purely summative assessment of learning was recorded.	ASS-Process

Source: processed from the research data, 2026.

Appendix 6j: Table 4.7 Themes of the Assessment of PjBL (RQ3)

Theme	Sub-theme	Indicators	Source
Process- and product-oriented assessment	Assessing the process; assessing the product	The teacher assesses how students do, present, and participate; the product is scored on content, neatness, and creativity.	T-5A & T-5C (Sec. 10); T-5B & T-5D (Sec. 10); S2, S5, S7; Instrument III
Communicated multi-criteria assessment	Criteria and deadlines stated at the outset; varied methods	Students can recall the criteria (content, neatness, creativity, presentation) and the deadline; all four teachers communicate criteria and use varied methods.	S1, S2, S5, S6, S7; T-5B & T-5D (Sec. 10)
Formative feedback during the project	Pointing out what is missing; ongoing feedback	The teacher tells students what they have missed and gives feedback while the project is in progress.	T-5A & T-5C; T-5B & T-5D (Sec. 5, 10); Instrument III; S3
The challenge of fair and consistent assessment	Writing-strong versus speaking-strong students; difficulty of judging the individual contribution within group work	It is hard to assess all students fairly; reservations remain about the consistency of the judgements and about the time that careful assessment demands.	T-5A & T-5C (Sec. 3, 10); T-5B & T-5D (Sec. 3, 10)

Source: processed from the research data, 2026.

Appendix 6k: Table 4.8 The Types of Assessment Recorded by the Teachers (Instrument III)

No.	Topic	Type of assessment	Activity
1	Statement with wish	Assessment as learning (peer review, feedback)	Group work
2	Active voice	Assessment as learning (peer review, feedback)	Secret mission and individual poster
3	Will be able to / won't be able to	Assessment for learning (presentation, formative action)	Individual poster

Source: Instrument III, processed from the research data, 2026.

Appendix 6l: Coding Audit Trail for the Teachers' Perceived Strengths (RQ4)

No.	Raw Data (Verbatim)	Data Condensation	Code
1	"Project-based learning help the student become more engaged and active in the learning ... show their creativity ... encourage them to have a good collaboration and show their critical thinking while allowing student to also apply their knowledge in meaningful and real-world contexts." (T-5A & T-5C, Sec. 1)	PjBL increases engagement and supports creativity, collaboration, critical thinking, and real-world application.	T-STR-Engage
2	"Students develop their creativity, critical thinking, problem-solving, communication, and collaboration skills. They also	Through PjBL students develop creativity, critical thinking, problem-solving, communication, and	T-STR-Skills

No.	Raw Data (Verbatim)	Data Condensation	Code
	can learn how to be more independent and responsible, and confident in their work.” (T-5A & T-5C, Sec. 2)	collaboration, and become more independent, responsible, and confident.	
3	“PBL improve the student involvement because ... it can boost their motivation, give them a sense of the ownership and make the learning become more meaningful ... The hands-on and collaborative nature of PBL also keeps the student interested and motivated to participate actively.” (T-5A & T-5C, Sec. 4)	PjBL boosts motivation, gives a sense of ownership, makes learning meaningful, and keeps students actively participating.	T-STR-Motivation
4	“It makes learning more meaningful because students can connect lessons to real-life situations. It also encourages creativity, critical thinking, and student ownership of learning.” (T-5B & T-5D, Sec. 1)	PjBL makes learning more meaningful by connecting lessons to real-life situations and fosters creativity, critical thinking, and student ownership of learning.	T-STR-Engage
5	“Students develop communication, collaboration, problem-solving, critical thinking, creativity, research, and presentation skills. They also become more confident and responsible for their own	Students develop communication, collaboration, problem-solving, critical thinking, creativity, research, and presentation skills and grow more confident and	T-STR-Skills

No.	Raw Data (Verbatim)	Data Condensation	Code
	learning.” (T-5B & T-5D, Sec. 2)	responsible for their learning.	
6	Self-reflective journal (Instrument I): “presenting their work in group, students become more confident”; the “secret mission” makes students “motivated and happy”; students “create an outstanding project” and are “very creative putting their ideas into drawing”.	The journals record increased confidence from group presentation, motivation from the secret mission, and creative, high-quality products.	T-STR-Engage

Source: processed from the research data, 2026.

Appendix 6m: Coding Audit Trail for the Teachers’ Perceived Weaknesses (RQ4)

No.	Raw Data (Verbatim)	Data Condensation	Code
1	“The limited of the time, because we don’t have lot of time for each chapter.” (T-5A & T-5C, Sec. 7)	Limited time is the foremost constraint, as there is little time for each chapter.	T-WEAK-Time
2	“Some student are stronger in writing, while others are more confident in speaking. So, it can be challenging to ensure that all student can show their learning fairly.” (T-5A & T-5C, Sec. 3)	Differences between writing-strong and speaking-strong students make fair assessment difficult.	T-WEAK-Fairness
3	“The various student ability and the different learning style ... the need of additional support and	Diverse abilities and learning styles, limited support and resources,	T-WEAK-Diversity

No.	Raw Data (Verbatim)	Data Condensation	Code
	resources, and also balancing the project work with the curriculum demand, and the assessment expectation.” (T-5A & T-5C, Sec. 7)	and the need to balance projects with curriculum and assessment demands are further constraints.	
4	“We need an ongoing professional development ... access to good quality of project resources ... and also the time to make a planning and to prepare the assessment.” (T-5A & T-5C, Sec. 6)	Effective implementation requires professional development, quality resources, and time to plan and prepare assessment, which are not yet sufficient.	T-WEAK-Support
5	“One challenge is managing time effectively because projects often require more time than traditional lessons. Another challenge is ensuring that all group members contribute equally. Assessing individual performance can also be difficult at times.” (T-5B & T-5D, Sec. 3)	Managing time is difficult because projects take longer than traditional lessons; ensuring equal group contribution and assessing individual performance are also challenging.	T-WEAK-Fairness
6	“One factor is that students have different learning abilities and levels of independence, so some need more guidance than others. Managing group dynamics and ensuring equal participation from all students can also be challenging.” (T-5B & T-5D, Sec. 7)	Students differ in learning ability and independence, so some need more guidance; managing group dynamics and ensuring equal participation is challenging.	T-WEAK-Diversity

No.	Raw Data (Verbatim)	Data Condensation	Code
7	“Teachers would benefit from professional development on project design, assessment strategies, and classroom management. Access to technology, learning materials, and opportunities to share best practices with colleagues would also be helpful.” (T-5B & T-5D, Sec. 6)	Teachers need professional development on project design, assessment, and classroom management, together with access to technology and materials and chances to share best practices.	T-WEAK-Support
8	Self-reflective journal (Instrument I): “some students need time to finish their project”; “some students struggle in using irregular verb”; “some students confuse to use correct form”; “some students want to choose their own groups”; “some students need help to gain a deeper understanding”.	The journals record recurring difficulties of time to finish, grammatical accuracy (irregular verbs and correct forms), group composition, and the need for additional help.	T-WEAK-Diversity

Source: processed from the research data, 2026.

Appendix 6n: Table 4.9 Additional Strengths and Weaknesses of PjBL Recorded in the Self-Reflective Journals (Instrument I)

Teacher	Project topic	Strength recorded	Weakness recorded
T-5A	Statement with wish	Presenting work in a group makes students more confident.	Some students want to choose their own groups, which may separate those

Teacher	Project topic	Strength recorded	Weakness recorded
			needing help from those who could assist them.
T-5A	Active voice	The secret mission makes students feel motivated and happy.	Some students still need to manage their time to translate their ideas into a poster.
T-5A	Will be able to	The students create an outstanding project.	Some students need help to gain a deeper understanding of the topic.
T-5B	Statement with wish	Encourages collaborative learning and communication among students.	Some students find it challenging to generate meaningful wish statements.
T-5B	Active voice	Encourages critical thinking and problem-solving during the secret mission.	Some students struggle with past-tense forms, especially irregular verbs.
T-5B	Will be able to	Connects language learning with technological and scientific concepts, making it relevant and interesting.	Some students need time to finish their project.
T-5C	Statement with wish	Students build good communication in the group.	Some students find the task challenging.
T-5C	Active voice	Enhances students' creativity and imagination.	Some students struggle in using irregular verbs.

Teacher	Project topic	Strength recorded	Weakness recorded
T-5C	Will be able to	The students were very creative in putting their ideas into drawing.	Some students need time to finish their project.
T-5D	Statement with wish	Students build good communication in the group.	Some students find it challenging and wish to be grouped with close friends.
T-5D	Active voice	Enhances students' engagement.	Some students struggle with irregular verbs, and giving feedback is time-consuming.
T-5D	Will be able to	The students can express their ideas easily.	Some students need time to finish, and some are confused about the correct form.

Source: Instrument I, processed from the research data, 2026.

Appendix 6o: Table 4.10 Themes of the Teachers' Perceived Strengths and Weaknesses (RQ4)

Category	Theme	Indicators	Source
Strength	Increased engagement and motivation	Ownership, meaningful learning, and active participation; the hands-on, collaborative nature sustains interest.	T-5A & T-5C (Sec. 1, 4); T-5B & T-5D (Sec. 1, 4); Instrument I
Strength	Development of twenty-first-century skills	Creativity, critical thinking, problem-solving, communication, and collaboration.	T-5A & T-5C (Sec. 2); T-5B & T-5D (Sec. 2)
Strength	Growth of learner dispositions	Independence, responsibility, and confidence.	T-5A & T-5C (Sec. 2); T-5B & T-5D (Sec. 2); Instrument I
Strength	Authentic, real-world application	Application of knowledge in meaningful, real-world contexts.	T-5A & T-5C (Sec. 1); T-5B & T-5D (Sec. 1)
Weakness	Time constraints	Limited time for each chapter; careful assessment is time-consuming; some students need time to finish.	T-5A & T-5C (Sec. 7); T-5B & T-5D (Sec. 3); Instrument I
Weakness	Difficulty of fair and consistent assessment	Writing-strong versus speaking-strong students; difficulty of measuring the individual contribution within group work.	T-5A & T-5C (Sec. 3, 10); T-5B & T-5D (Sec. 3, 10)

Category	Theme	Indicators	Source
Weakness	Diversity of abilities and learning styles	Varied abilities and learning styles; grammatical accuracy; differing levels of independence and need for guidance.	T-5A & T-5C (Sec. 7); T-5B & T-5D (Sec. 7); Instrument I
Weakness	Limited resources and need for support	Need for professional development, quality resources, and planning time.	T-5A & T-5C (Sec. 6); T-5B & T-5D (Sec. 6)
Weakness	Balancing projects with curriculum and management	Balancing project work with curriculum and assessment demands; managing group work and group composition.	T-5A & T-5C (Sec. 7); T-5B & T-5D (Sec. 7); Instrument I

Source: processed from the research data, 2026.

Appendix 6p: Coding Audit Trail for the Students' Perceived Strengths (RQ5)

No.	Raw Data (Verbatim)	Data Condensation	Code
1	"I enjoy expressing my ideas, and also the drawings and the information that I put in the project." (S1)	Students enjoy expressing their ideas through drawing and putting information into the product.	S-STR-Creativity
2	"I can put all of my creativity into the paper that I'm going to use." (S3)	The project lets students pour their creativity into the work.	S-STR-Creativity

No.	Raw Data (Verbatim)	Data Condensation	Code
3	"I socialize with the others, and I can get more information from my friends." (S2)	Projects allow students to socialise and obtain information from peers.	S-STR-Social
4	"I enjoy the group project because I can work with my friends, so I have new friends." (S5)	Group projects let students work with friends and make new friends.	S-STR-Social
5	"Projects are more fun than just sitting down and writing ... it makes you more energized and more focused." (S4)	Projects are more enjoyable and engaging than ordinary writing, and increase energy and focus.	S-STR-Motivation
6	"I can read it again, so I can understand more." (S1); "The presentations given before the projects are really helpful." (S4)	The project process deepens understanding through revisiting the material and the teacher's introductory presentation.	S-STR-Understanding
7	"I enjoy the most, drawing, because I love drawing ... I can make my own drawings and information, so I can understand it more." (S6)	Drawing lets the student express creativity, and producing her own drawings and information helps her understand the material more.	S-STR-Creativity
8	"I can learn it more, enjoyably, because of the colour, the drawings, and the decorations." (S7)	Colour, drawing, and decorating make the project enjoyable and motivating to work on.	S-STR-Motivation
9	"I like that I can be creative and work with my friends. It's more fun than just	The project lets the student be creative and work with friends, and is more	S-STR-Creativity; S-STR-Social

No.	Raw Data (Verbatim)	Data Condensation	Code
	listening to the teacher.” (S8)	enjoyable than listening to the teacher.	
10	“It helps me understand because I get to see how things work in real life and I remember stuff better when I do it myself.” (S8)	Seeing how things work in real life and doing the work herself deepens the student’s understanding and retention.	S-STR-Understanding

Source: processed from the research data, 2026.

Appendix 6q: Coding Audit Trail for the Students’ Perceived Weaknesses

(RQ5)

No.	Raw Data (Verbatim)	Data Condensation	Code
1	“It’s difficult when the teacher give the students time to ask me some questions about my project when presenting, so it’s confusing when I answer it.” (S1)	Answering the audience’s questions during the presentation is confusing and difficult.	S-WEAK-Present
2	“When I answer the questions and when I present in front of my class.” (S2)	Presenting in front of the class and answering questions is the difficult part.	S-WEAK-Present
3	“I find it difficult when I present the project.” (S5)	Presenting the project is difficult.	S-WEAK-Present
4	“Some students ... they annoy me, so I got distracted ... some students like don’t want to help.” (S1)	Group members cause distraction and some do not contribute.	S-WEAK-Group
5	“I get distracted by my friends that wants me to go play.” (S2); “I sometimes get	Working in a group brings distraction from friends.	S-WEAK-Group

No.	Raw Data (Verbatim)	Data Condensation	Code
	distracted when I work in a group.” (S5)		
6	“I wish I had more teammates that know what to do other than standing around.” (S4)	Some teammates do not know what to do, leaving the contribution uneven.	S-WEAK-Group
7	“Sometimes the times is really short, so I’m not really finishing it all.” (S3)	The time given is sometimes too short to finish the project.	S-WEAK-Time
8	“I wish I had more information and the drawing ... I get confused about what I want to draw.” (S1); “More coloring tools or more information.” (S3)	Students want more information and more materials such as drawing and colouring tools.	S-WEAK-Resource
9	“The challenges to find the answers are difficult, but not too difficult.” (S4); “I don’t know the questions.” (S3)	Finding the answers and information can be difficult for the students.	S-WEAK-Inquiry
10	“When there is not enough time, and I’m not sure about outlining ... the project.” (S7)	The time is sometimes too short, and the student is unsure about outlining the project.	S-WEAK-Time
11	“Maybe when answering some questions ... when I need to find the answers.” (S6)	Answering questions and finding the answers for the project can be difficult.	S-WEAK-Inquiry
12	“Sometimes it’s hard to finish everything on time and to make sure everyone in my group is doing their part.” (S8)	Finishing on time and ensuring that every group member contributes are both difficult.	S-WEAK-Time; S-WEAK-Group
13	“Sometimes it’s hard to know exactly how to give feedback to our friends.” (S8); “I wish we had	Giving feedback to a classmate is difficult, and the student wishes for more	S-WEAK-Present; S-

No.	Raw Data (Verbatim)	Data Condensation	Code
	more art supplies and more information about the material.” (S8)	art supplies and more information.	WEAK-Resource

Source: processed from the research data, 2026.

Appendix 6r: Table 4.11 Themes of the Students’ Perceived Strengths and Weaknesses (RQ5)

Category	Theme	Indicators	Source
Strength	Creativity and self-expression	Expressing ideas through drawing, designing posters, and putting creativity into the product.	S1, S3, S5, S6, S7, S8
Strength	Social and collaborative benefit	Working with friends, making new friends, and learning from peers.	S2, S4, S5, S7, S8
Strength	Deeper understanding of content	Revisiting the material, benefiting from the introductory presentation, and connecting the project to real-life use.	S1, S2, S3, S4, S6, S7, S8
Strength	Enjoyment and motivation	Projects are more fun and engaging than ordinary writing and increase energy and focus.	All eight students
Weakness	Presentation and question-and-answer anxiety	Difficulty in presenting, in answering the audience’s questions, and in giving feedback to a classmate.	S1, S2, S3, S5, S6, S7, S8
Weakness	Group friction and uneven contribution	Distraction within groups and classmates who do not contribute.	S1, S2, S4, S5, S8
Weakness	Time pressure	The time given is sometimes too short to finish the project.	S3, S7, S8

Category	Theme	Indicators	Source
Weakness	Need for more information and resources	A wish for more information and for materials such as drawing and colouring tools.	S1, S2, S3, S5, S6, S7, S8
Weakness	Difficulty finding information and answers	Locating the answers and information for the project can be hard.	S3, S4, S6

Source: processed from the research data, 2026.

