

# Verification of Japanese language classes that foster logical thinking skills

Daiki Mizoue, Hirotaka Nanba, Shigeo Mase, Sayaka Hashima, Isao Yamanaka  
Ryusuke Miyamoto, Hiroyasu Yoshioka, Mayu Takahashi

**Abstract:** In this study, based on the hypothesis that it is effective to develop logical thinking ability in the Japanese language department, we will examine the reading comprehension and instruction of "strategy" at low, middle and high levels. By conducting lessons based on these hypotheses, the types of logical thinking and the characteristics of developmental stages were clarified. One is logical thinking as a process of interpreting the logic contained in the content of the story. The other is the logic of linguistic expression, or logical thinking as a process of interpreting the narrator or author of a story.

## 1. Introduction

What is "logical thinking ability" in the Japanese language department? We find it in human activity. "Logical thinking" is used in everyday life from children to adults.

However, we feel that we lack "logical thinking ability" and must develop it. Therefore, I try to train for children. But if the "logical thinking ability" you are trying to develop is not rooted in your life, it becomes a "meaningless academic ability."

The "logical thinking ability" that is rooted in life and should be carried out in daily life is not the formal logical thinking (programming language thinking or mathematical thinking), but the "logical thinking ability" that is rooted in everyday language. That is the thinking power of "everyday logic". The difference between the two is that the former is closed system logic (relationships that can be connected by an equal sign) and the latter is open system logic (relationships that are not connected by an equal sign). There can be no exact same relationship.

In other words, everyday logical thinking cannot escape the characteristics of everyday language. In everyday language, "meaning" is not internalized. What is written in the dictionary is "corpse of meaning", meaning is generated and killed during use. Moreover, "meaning" and "intention" are <always> different. Furthermore, you cannot limit the "intention" of the writer (speaker) yourself. Everyday words are used for such vague "rules", and the logic of everyday words is used there. Dreaming of formal linguistic logic is meaningless to us living in everyday language.

But we need to swim together in the sea of languages that float in the vague "rules". If you swim alone, you don't need "logical thinking". In order to swim together in a fun, deep and fluffy sea, you

need to acquire "logical thinking".

You can't learn how to swim without actually getting into the water and moving, and if you don't want to swim in the first place, you can't own it. Therefore, the lessons must be in line with the child's motives and reality. On the contrary, if you do not teach how to swim in order to swim, you will swim or drown in your own way. So I have to teach the method in the class.

And unless you have a goal of where to swim, how you swim does not penetrate your body. To practice for a long time in a pool with flowing water, you need goals such as wanting to swim comfortably in the sea and winning a tournament. That's why lessons need to be valuable.

Find out if the practices and theories implemented in this study are heading in this direction.

(Hirotaka Nanba)

## 2. Purpose and method of investigation

### 2-1 Purpose of research

In the Japanese language department, we are conducting research from the perspective that "logical thinking ability" is an important quality and ability. I think that logical thinking ability not only understands the teaching materials, but also grows in cooperation. For people with diverse values, living in harmony while accepting each value is an important quality and ability to live in a globalized society. In this class, you need to acquire logical thinking skills. We will discuss each logic and proceed with research aiming at the creation of new logic. This study deals with how to develop and teach logical thinking abilities in various types of sentences in explanations and literature. Therefore, from the perspective of logical thinking, I would like to redefine the "goals and contents" shown in the Japanese version of the elementary school curriculum guidelines. In addition, in order to realize the redefined "goals and contents", we will teach you how to read sentences while learning how to read as a "strategy". This "strategy" is used consciously and intentionally based on the learner's own tasks and sense of purpose, and is uniquely set as a "reading strategy" in the Japanese language department. We will give guidance while being aware of the systematic personality of 6 years. Based on the hypothesis that logical thinking ability needs to be developed in connection with such "strategy" guidance, the validity of "reading method / strategy" and the validity of the system are also verified. Since this research is a continuation of research from 2018, this paper considers Japanese language classes that cultivate logical thinking skills in literature.

### 2-2 Outline of research

#### 2-2-1 What is the logical thinking ability of the Japanese language department?

Many researchers and practitioners have studied logical thinking abilities in Japanese language education. In previous studies, it has been generally argued that "logic" is the "relationship" and "connection" of things, and in a narrow sense, the relationship / connection between "reason and assertion" and "causality". .. In a broad sense, it is said to be "(time / space) order relations", "general / concrete / overview detailed relations", and "analogous / contrast relations" (Nobuyoshi Morita (2010), Hirotaka Namba (2006, 2018), Yoshinori Kikkawa. (2012, 2017) etc.). Also, in Namba (2006), "logical thinking ability" is defined as "ability to think about appropriate logic", and "(1) is it true? (2) is true including facts that are not written. (3) He pointed out the importance of the ability to judge "whether the relationship between opinions is appropriate" rather than the opinion itself, and

according to previous studies, "logic" is the "relationship" of things. is there. "logical thinking ability" cultivated over 6 years is defined as follows.

Ability to think about appropriate logic from information and information in sentences.

In addition, the <logical thinking ability> that should be acquired in each grade required to advance the practice is as follows.

Logical thinking ability of upper grades	Ability to think about the relationship between information such as cause and effect
Logical thinking ability in middle school	Ability to think about the relationship between information as a whole and as the center, such as ideas and the reasons and cases that support them
Logical thinking of low-grade	Ability to think about relationships between information such as commonalities, differences, order of things

From the lower grades to the upper grades, we will proceed with learning from a spiral to a high level systematically, repetitively, according to the developmental stage, according to the <logical thinking ability> that should be developed in each grade.

#### 2-2-2 Understanding strategy to develop logical thinking ability

Next, I will explain how to use the understanding strategy in class. Mase (2013) gave an overview of the teaching of understanding strategies in the Japanese language department and explained the definition of understanding strategies. There may be processes that are automated and executed unconsciously according to learning and development, and processes that are consciously executed such as grasping sentence patterns and reasoning, but the understanding strategy focuses on the latter. According to Mase's (2013) arrangement, comprehension strategies are completely different from temporary skills and require the reader's own acquisition and flexible and deliberate use in context.

By learning and utilizing such understanding strategy , it is expected that children will recognize the work of their heads in their own readings and bring about changes in their readings. And this transformation of reading is brought about by reading information related to logic (that is, reading with logical thinking). Therefore, I thought that it was necessary to provide a place to learn and utilize understanding strategies in Japanese classes and to practice classes that encourage children's logical thinking.

#### 2-2-3 Practical practice of Japanese lessons to improve the logical thinking ability of literature

Descriptions and literature have different types of sentences, but both are thought to have "logic." In addition, each learner thinks that they have something in common in reading while demonstrating their logical thinking ability in interpreting sentences. However, it is possible to point out different parts of the "logic" of each statement type. For example, descriptive text has an explicit "logic" in the structure and content of the text. On the other hand, in literary texts, "logic" is a causal relationship in the context in which "logic" is not clearly stated at first glance.

Therefore, when reading literature, we aim to develop the learner's logical thinking ability through

activities such as guessing the causal relationship of the context. In addition, while drawing out the reader's mind by making the best use of the ability of literary works, I demonstrated my logical thinking ability and learned to shake the learner's sense of values.

(Daiki Mizoue)

3-1 Teaching literary texts to develop the ability to think about the relationship between information such as commonality, differences, and the order of things "Swimmy" (1st grade)

3-1-1 Relationship with research themes

By reading literary texts, I aim to develop logical thinking skills by interpreting and exchanging my thoughts. In particular, the reading comprehension method (strategy) for lower grades is set as a learning task aimed at "the ability to think about the relationship of information such as commonalities, differences, and the order of things." Therefore, I made the following hypothesis and learned.

"How to logically read human behavior and emotions <Strategy> Connecting "extracting sentences" and "reasoning" is the relationship of information such as commonalities, differences, and the order of things, and "the ability to think" Effective for development."

3-1-2 Teaching materials analysis and lesson planning

This teaching material "Swimmy" is a story that begins when the main character, Swimmy's brother, is eaten by tuna. The only swimmy left is to wander the seabed with a sense of loss, but by healing his mind with various sea creatures and meeting friends who look exactly like him, he raises his feelings of confronting difficulties and heads for a solution. While assimilating with Swimmy, children read books to experience sadness, suffering, beauty, and joy. By devising the rhythm and expression method of the words that are characteristic of this story, children can feel the passage of time and the atmosphere of the scene and read while having fun.

In teaching this teaching material, we will deepen the logical interpretation of human behavior and the state of the scene by activating it with words and reading it as a person. Then, by exchanging each interpretation, you will learn to notice changes in people and expand your imagination while enjoying the joy of reading. Specifically, I would like to deepen my interpretation while using "I think I used to say ..." (assimilation) and "I think I took the action of ○ because I thought ..." (inference).

The children's first impressions are thought to express their feelings toward the main character, Swimmy, from various perspectives. They are used in discussions because they are considered as a stepping stone to read Swimmy's actions in two scenes and Swimmy's changes in mind. In the second stage, children express their readings, exchange their readings using the readings "extract text" and "guess", and compare the behavior of the person with the state of the scene. I will. While doing so, you will learn to read and deepen the story. In the third stage, based on the learning up to the second stage, students should write their favorite scenes with pictures and sentences, introduce each other, notice the difference from the first impression, and summarize the learning so far. I will ask.

3-1-3 Actual class

(1) Current goal

○ You can compare Swimmy and her brother and read while imagining the feelings of that person.

(2) Guidance plan (7 hours in total)

1: Read "Swimmy" and write your first impression. . . . 1

2: Expand your imagination from people's actions, conversations, and scenes. . . . 4

① Read while comparing scene 1 and scene 2.

② Read while comparing 3 scenes and 4 scenes.

③ Read 5 scenes. (At the moment)

④ Please read 6 scenes.

3: Introduce the state of your favorite scene. . . . 2

(3) Actual class

At this time, the main character, Swimmy, began by looking back at each scene, what happened, and what Swimmy looked like. Specifically, after repeating operations with her reading aloud and toys, she remembered what Swimmy experienced and what happened at the time, and she learned the scene of Swimmy and her brothers. I presented the challenge, "Let's think about what Swimmy was trying to tell everyone." I told him to summarize what he thought about Swimmy's words and Swimmy's brother's words. After that, we exchanged pairs and had a discussion in a class discussion.

T1. Come on, maybe I ask another pair. A pair of C1 and C2.

"Come out. Let's play together. There are many interesting things."

C1. It may be okay to see interesting fish.

T2. "No. It can be eaten by big fish."

C2. After confirming safety, wait for a big fish to come out.

From these remarks, I talked about the discrepancy between Swimmy's ideas and the Redfish brothers' ideas, and what lies behind those ideas.

C3. These red fish were always hiding behind the rocks because I thought they were trying to eat the red fish.

T3. I see. So who is hiding? (C. Red fish.)

T4. It was a red fish that was hiding. Then, what I thought was hidden. (C swimmy.)

T5. Yeah, that's right. I thought it was hidden. (C. But what?)

T6. Ask "But why?" C4.

C4. But for some reason, the red fish brothers hiding behind this rock may have noticed that this (Scene 2) was being eaten, or hiding whether it was still being eaten. there is. So I don't know yet.

T7. Interesting. So what does Swimmy know? Because she may know something interesting. What Swimmy knows and sees is different from what the little fish brothers know and see. Think about what C4 is saying right now. Swimmy was scared, so I wondered if she was hiding, but what is Swimmy looking at? (C It's a tuna. It's a big fish.)

T8. Small fish are hiding. I wondered why Swimmy knew this. Do the red fish know this? Mr. C5. I just told you.

C5. Those red brothers who look exactly like them have never seen tuna eating red fish.

T9. That's true. Why do the red fish know even though they haven't seen this? that. C6.

C6. I knew there was a big fish without looking at the tuna, so I may have been hiding.

From this discussion, the Redfish brothers' fear of the outside world was due to their long experience, and they deepened their interpretation, speculating that it was deep-rooted. The kids felt that

Swimmy felt that way too. So I asked him, "What did Swimmy think about talking to everyone?" He asked him to write down Swimmy's thoughts in his notebook. When I announced the idea, I came up with the following idea.

C7 Get rid of big fish.

C8 Let's get rid of big fish.

C9 Everyone looks sad and wants to cheer up.

C10 I don't want to scare the red fish for some reason.

T10 I see. I don't want to scare you for some reason. why.

C11 Returning to this scene, it's scary, it's the same as scary, so I want to cheer up scary children, but because there are tuna etc., I'm scared twice as much. Therefore, I would like to show you a lot of interesting things and cheer you up.

T11 I see. Now let's write what we learned today. Thus, she realized that Swimmy wanted to solve both "getting rid of the big fish" and "living in fear of the red fish brothers." This shows that she assimilate and speculate on Swimmy, who was worried about how to convey her thoughts. She asked the students to write down what she learned in this study, and she said: C12 Swimmy turns out that she has a strong desire to convey. She has a strong desire for swimmy she wants to show. I wanted to tell you what.

C13 Swimmy found. Swimmy, who she courageously tries to say, she wants to tell.

C12. It turns out that Swimmy has a strong desire to convey. The desire to show is getting stronger and stronger.

C13. Swimmy said with courage.

3-1-4 considerations

When reading literary texts, we find that children used story-based "reasoning" readings to build their ideas. In addition, it was found that in the developmental stage of children in the lower grades, while activating the story and playing a role, they noticed the state of their behavior and thoughts and tried to read it while adding new interpretations. At this time, the children reviewed their interpretations over and over, incorporating their learning, stories, and various ideas into their own ideas, repeating inferences using the words "maybe" and "maybe." To go. I was reading while feeling what Swimmy wanted to convey and the strength of her feelings at that time. In this way, it was found that "reading comprehension / reading comprehension (strategy)" is positioned in the learning process even in the lower grades, and children use it repeatedly to build their own reading comprehension.

(Sayaka Hashima)

3-2 Teaching poetry reading comprehension that activates logical thinking by utilizing "reading aloud" "Pumpkin vine" (3rd grade)

3-2-1 Relationship with research themes

This practice first considers logic as a "causal relationship" based on Namba (2018). In addition, it is included in activities that connect logic, focusing on the image (experience) that stands up in the learner and the explanation of the work, and the "causal relationship" between the image

(experience) and the learner's words. At that time, the enrichment of "reading aloud" may activate logical thinking and foster an image of imaginative poetry. Based on this, the following hypothesis was made.

Repeated reading aloud and asking about images is an effective way to activate the learner's logical thinking and expand the world of poetry content.

### 3-2-2 Teaching material analysis and lesson planning

The teaching material is the poetry work "Pumpkin Vine" by Naotomo Harada. The poem is composed of one sentence without punctuation and depicts the pumpkin vine growing constantly. Continuity and dynamism can only be achieved by reading aloud. This is based on the view that the feeling of air, the trembling of the body, and the feeling of playing that combines voices created by reading aloud creates an image (experience) that cannot be reached by silent reading alone. I envisioned a lesson in which logical thinking actively functions in the exchange of images (experiences) and "words" that cannot be read silently by one person.

### 3-2-3 Actual class

#### (1) Current goals

- You can use your imagination to read the world of poetry.

#### (2) Guidance plan

1: Read "Open and open" and expand your imagination to read the poem.(1)

2: Read multiple poems aloud while expanding your imagination (2) (2/2 )

①Imagine while reading "I'm coming to Yuhigasenaka".

②Expand your imagination while reading "Pumpkin Vine" aloud.

3: Read the poems selected by the group and give a reading presentation. (2)

#### (3) Actual class

By repeating reading aloud, this learning starts the image (experience) of the growth of the pumpkin vine, and at the same time, repeatedly tries to verbalize (conceptualize) the image.

T: By the way, Could you read out the feelings of the pumpkin to the voice?

C: ⑤ (Child C: Reading aloud) "Pumpkin vine goes up, goes up"

C: ⑤ (Child D: Read aloud) "Pumpkin vine goes up, goes up"

C: (Child: Applause)

T: I hope everyone can imagine a pumpkin vine. Let's read it aloud for yourself.

C: ⑥ (Everyone: Please read aloud) "Pumpkin vine goes up, goes up"

C: ⑦ Something goes up slowly.

C: ⑧ I feel like I'm going down, going up, and working hard to grow. T: What do you think? C: ⑨ I want to grow fast, be cooked by humans, and eat fast. <Omitted>

C: ⑩ Pumpkin vine, don't cut it

C: ⑪ One mind and one body.

T: What?

C: The main body is ...

### 3-2-4 considerations

Create an image of a pumpkin vine while using the reading. Here, I got the image of ⑦ slowly rising,

⑧ working hard and growing, ⑨ wanting to grow fast ... wanting to eat, ⑩ so that the vine does not break, ⑪ unity. While exploring the "causal relationship" between the atmosphere, atmosphere, duplication, and repeated impressions that can be felt by repeating words and reading aloud, we launched a world of works that cannot be reached by silent reading alone. In the process of thinking that explores this causal relationship, the activation of logical thinking can be seen. Before and after reading aloud, there is a clear deepening and expansion of the child's image. However, in order to measure the usefulness of "reading aloud" as an act that stimulates the inside of the learner, (1) does the learner himself recognize the usefulness of "reading aloud"? (2) In other activities as well, it is necessary to deepen verification and consideration from various angles, such as whether learners are actively trying to utilize "reading aloud"

(Isao Yamanaka)

3-3 Guidance for creating new value by reading the causal relationship between the context "River and Norio" (6th grade)

3-3-1 Relationship with research themes

As mentioned earlier, literary texts have "logic" in the causality of context. Especially in the upper grades of literature, the value of a work cannot be reached without reading the connections between things that are not explicitly stated, rather than explicit connections. Therefore, the learner's logical thinking ability is cultivated by consciously guessing the causal relationship of the context in the lesson and presenting the learning task that requires asking a question. It should also be noted that in addition to the means from the teacher, the learner's values are shaken or reviewed by exercising logical thinking ability while utilizing the ability of the literary work to draw the reader's heart. there is. For that purpose, we set an appropriate learning task for reading using the understanding strategy of the upper grades, and consider the causal relationship of the context and the logical thinking ability in the thinking process aiming at the achievement of the learning task. In this class, the lessons were based on the following hypotheses.

For 6th grade children, the deliberate use of reading (strategy) "reasoning" helps to think from the story the reason for the change, which is the causal relationship of the context, which is not a clear connection.

3-3-2 Teaching material analysis and lesson planning

This material, "River and Norio," does not elaborate on the dire situations associated with the war and the damage caused by the atomic bomb. Rather, it is a work like a calm river that flows quietly and steadily. However, I thought that it was a work that had the power to move the readers' hearts because it conveys the feelings and thoughts of each character. Two features of this work influence why I came up with such an idea. First, poetic expressions reminiscent of prose poetry are often used throughout the work. Second, narrators don't talk much about situations and emotions. From these two points, the reader is drawn into the work, and by thinking about various expressions, he / she can read while grasping the sadness and suffering at the bottom of the work as himself / herself.



In this class, we planned the unit with two things in mind, taking advantage of the characteristics of the above teaching materials. First, learners deepen their understanding of the character's emotions through activities such as inferring causal relationships in context based on the "logic" characteristics of the above sentence. The second point is to draw out the reader's mind by making the best use of the literary work's ability, and to shake or review the learner's values that have been held up to that point by demonstrating the logical thinking ability. is. And to create new values about "war" and "peace".

3-3-3 Actual class

(1) Current goal

⇒While paying attention to each depiction, you can guess the emotions of the characters and the situation behind them and summarize your thoughts.

(2) Guidance plan (8 hours in total)

1:Read the textbook and write your first impression of reading. (1)

2:Read the story, paying attention to the character and scene descriptions.(4) (3/4)

3:Create an anthology with the theme of rivers and norio. (3)

(3) Actual class

The focus here is on learning to read the changes in a person over time. So far, I have focused on time and deepened my reading in order to understand the composition of the work. When grasping the time, I guessed the time from the change in the environment where the situation of Norio and the description of the time were not clearly visible. Next, I focused on the "changes" over time and set the learning task to "what has changed, what has not changed". And I gave a lesson. The child placed many modified and immutable things in the composition of the passage of time. In the process, two issues related to change became apparent. It is "whether there is a change in Norio itself" and "whether there is a change in the river". Therefore, this time, I focused on the two changes of "Norio and River" and decided to set a learning task "Did the river and Norio change?" In this task, I deepened my reading comprehension while being aware of the understanding strategies "understanding the structure" and "reasoning." Children position color words and scene changes as changes in time, think in relation to Norio's emotional changes, and focus on the way the "narrator" speaks and the two types of "rivers" that exist in the work. .. At the end of the lesson, he made inferences based on these "changes in Norio's emotions" and "two types of" rivers "" and expressed his opinion on this subject. Below is a description of the child.

○ Since the river is always flowing, the river itself has not changed. However, because the river has something to do with Norio, Norio's feelings were transmitted to the river, and the river for Norio changed.

○ Since the river is a symbol of the passage of time from that day (August 6) and a symbol of emotional change from that day, there are "change" and "no change".

○ There are "rivers for Norio" and "always the same river", and even if Norio's feelings, circumstances, and way of life change, there are things that will not change forever, such as feelings for his mother and family. Some have changed, but some have not.

### 3-2-4 considerations

It was observed that the reason for what was changing and what was not changing was "guessed" by "extracting the text." At that time, children were able to think while paying attention to the "words of color" and the "environment" and "characteristics of expression" around them. Another possible result is that children were able to develop their learning by connecting their own words. From the depiction of the child, we can see that a mental conflict was born. This is because temporary causal relationships are accumulated in the structure of the work, such as the time axis and relationships. Also, from the appearance of Norio in the last scene, she guessed Norio's complicated feelings, "Norio is trying to accept the current situation, but she is not accepting it." I think this is evidence that my own values have changed by approaching indescribable ideas from the perspective of the parties involved in the war, from the vague perception that war is miserable. In other words, children have created new values by shaking existing values while reading literary texts logically. From this, it was considered that practicing lessons related to strategic instruction is effective in developing the logical thinking ability of children by reading the causal relationships of the context. However, I think it is necessary to further verify the creation of learning tasks that take into account the differences in sentence types, and the establishment and utilization of grade-aware understanding strategies.

(Daiki Mizoue)

3-4 Sentence instruction "Yamanashi" (6th grade) to develop the ability to think about the relationship between information such as cause and effect

#### 3-4-1 Relationship with research themes

By reading literary texts, I aim to grasp the world of the story in my own way, make full use of my logical thinking ability, and deepen my interpretation while exchanging opinions. In particular, with the aim of "ability to think about the relationship between information such as causes and effects," reading comprehension methods (strategies) for upper grades are set as learning tasks. Therefore, I made the following hypothesis and learned.

In order to read the narrative description while interpreting it logically, the relationship between logic and information is related by associating the reading (strategy) with "guessing what the description represents" and "capturing the composition".

#### 3-4-2 Teaching material analysis and lesson planning

This teaching material "Yamanashi" is a story told by a narrator about the world seen from the bottom of the river during the two seasons of "May" and "December". Many of the words that the crab brothers see and feel are left to the reader, but their appearance and metaphorical expression allow them to be read with imagination. Children are thought to read books while being drawn into the world of the riverbed through the crab brothers. In addition, since many words expressing the author's imaginary world and colored words are used in this teaching material and the structure of the story is skillfully set, this research focuses on the entire sentence and changes the reading. I have. Hooray. I decided to read the whole story and learn to deepen my reading. Therefore, when

learning how to read this material, pay attention to the author's composition, perspectives, emotions, depictions, images, and expressions, and focus on where you interact with others to read the book. We teach children to enjoy the joy of appreciating literature. In teaching this teaching material, I would like to change the way of reading the work, such as the composition of the story, the viewpoint of the person, the depiction, and the author, and acquire the reading that faces the work. Also, while exchanging the impressions I received from the work, I would like to share each reading and make use of it in my own reading. And I want to lay the foundation for reading how to proceed with my future work. Therefore, in this unit, I would like you to learn the emotions and depictions necessary to read literary works and feel the joy of expressing literary works. At that time, use the reading method to summarize your thoughts and learn to read logically. Specifically, when using words such as "A may represent ..." (inference) and "B and C may represent ○" (common), let's capture the world of the story. Then, by mutually interpreting the readings (drawings) of "guessing what the depiction represents" and "capturing the composition", we aim for learning that can deepen the reading. In this unit, you will read "Ihatov's Dream", learn about the author Kenji Miyazawa, read the story of "Yamanashi", and have your first impression written. It seems that there are various impressions such as the mystery of the world of the work, the fun of developing the work, the difficulty of the world view, the way of expression of the author. Therefore, based on that impression, write down the questions that come up after reading the story and use them for the second discussion task. In the second stage, you will learn to use the reading of "reasoning" to express your thoughts based on sentences, exchange thoughts, and deepen your work. This time, I would like to review and reconstruct the world view of the story read from the composition and perspective while reading what kind of impression the colored words give to the reader in the explanation. In the third session, I will discuss reading, read stories, and summarize what is strong and memorable to me, based on what I have learned by the second session. Furthermore, by rereading "Yamanashi" after a while, you can get a bird's-eye view of the reading material, summarize what you have learned so far, and guide you to the reading material you want to read.

### 3-4-3 Actual class

#### (1) Current goal

○ You can broaden your thinking by reading the story, capturing the depiction, thinking about the effects of the expression, and sharing your imagination about the world of the story.

#### (2) Guidance plan (8 hours in total)

##### 1: Meet the story. (2)

- ① Read "Ihatov's Dream" to know the author.
- ② Read "Yamanashi" and write your first impression.

##### 2: Discuss what you felt after reading the story. (3)

- ① Discuss the relationship between people and the composition of the story.
- ② Read the explanation and imagine the world of the story expressed by the narrator.
- ③ Summarize the world of the story you imagined.

##### 3: Discuss the world. (3)

- ① Hold a reading party. (2)

② Reread. (1)

(3) Actual learning Based on what I learned about people and events last time and how they were written, I would like to look back at what appears in the whole story and think about what the depictions represent in this learning. At the same time as marking the color and shape of the text, I told him to write his thoughts on the blackboard according to the scene. After that, we asked them to think about the "commonalities" and "differences" of the depictions in group activities, and discussed what they could read. Next, in the general exchange, we asked what kind of discussions are taking place within the group.

T1: Let's ask.

C1: I started with mercury, started with the color and shape of mercury, and thought about the color, but I think mercury is probably a beautiful color. I was happy that Cranbon laughed, so I think it looked beautiful.

T2: You related emotions and colors, didn't you? what else?

C2: Probably the last Kongo stone powder from Kanji is a golden stone, so the moonlight may have reflected off the waves of the river and looked golden.

C3: Also, the dictionary says that Kongo stone is a diamond, and it is not gold because it reflects.

T3: Something like the color of a diamond has something to do with wanting to express something like a reflection.

C4: I had a little question, and at the end it said "a faint flame fluttered", but I don't know the sea, but it's usually a cold image, and it's like fire. Since pale people are hot, I wondered why they are represented by pale flames, and because pale colors are mostly blue, why they are pale when exposed to sunlight. So I thought it would be okay if it was light blue, but I thought I wrote it in a light color because I wanted to make it more transparent.

T4: This paleness is also called swaying in addition to flames, but there are other places to express it, right?

T5: Even though the expression is the same color, where does it look when it burns?

T6: Where is the bottom of the water? (C: bottom)

T7: Why is there such a difference? Is it the same? Is this wrong? Yes, I will consult.

In that, I decided to think of the expression "pale flame". The overall discussion after the group discussion is as follows.

T8: Yes, please.

C5: When you want to compare a pale flame with a pale flame, it is usually pale, but in reality the flame does not rise in the sea. When the fire rises, something that sways occurs, so I think it means that it is pale because it is a swaying sea, but it is pale and pale. I think it's the same because the pale May and December are burning.

T9: What is the same situation?

C6: There is a faint image of waves that burn and extinguish faint flames, there is a warm or bright image, and it is bright when viewed from bottom to top at the bottom of the river. Therefore, I think that the pale flame is the scenery seen by the crab cub.

(abridgement)

T10: Looking at these colors, there are actually other colors as well. I compared pale to pale, but are there any other similar colors?

-Group discussion-

C7: First, divide the crabs that have a good sense of crabs. For example, white ones. I usually use white for what I see often. For example, the belly of a fish changes from silver to iron. By using different colors, I gave a good impression and a bad impression. I thought it was silver or gold that gave a good impression, and black that gave a bad impression.

In this way, after seeing the world where parents and children live, such as "pale white," I read the depictions of other colors and realized that the story was richly expressed in colors. At the end of the lesson, the narrator finished this lesson by summarizing his thoughts on why he explained the story in different colors, such as "Two Blue Phantom Lights."

3-4-4 considerations

In the class aimed at cultivating "the ability to think about the relationship between information such as cause and effect", the reading (strategy) of "guessing what the depiction represents" and "capturing the composition" is involved. It was necessary to consider the relationship of information in learning, and I think that I was able to make a deep interpretation. I think it is effective to go to each reading material, but it is undeniable that the breadth of interpretation will be diverse and easy depending on each interest.

(Sayaka Hashima)

#### 4. In conclusion

I have seen what kind of logical thinking is done when reading literary works of the lower grades, middle grades, and upper grades.

In the practice of Hashima's "Swimmy" in the lower grades, in the process of discovering the implicit fish premise that "it may be eaten by big fish", I read the intention to break the fear of such an implicit fish premise.

In the practice of "pumpkin vine" in the middle grades of Yamanaka, there was a process of experiencing the meaning and effect of repetitive expressions such as "crawling up" by reading aloud.

In the upper grades of "River and Norio", Mizoue's practice involved the process of considering two symbolic meanings of nature's permanence and natural change in relation to humans. In Hashima's practice of "Yamanashi," the process of interpreting the symbolic meanings of the two scenes was seen from the commonality and symmetry of the images given by repeated expressions and motifs.

From the lessons of each of these grades, it seems that the types of logical thinking and the characteristics of the developmental stage that were nurtured in the lessons of reading literary works became clear.

One is logical thinking as a process of interpreting the logic contained in the content of the story that is the subject of the learner's reading and thinking. The lower grade classes focused on the following logical thinking: The logic contained in the story content is as follows.

- The logic, internals, and remarks of the character's actions
- Causal relationship of events

Next is logical thinking as a process of interpreting the logic of the narrator and author inherent in

linguistic expressions and stories. A new learning process was seen in junior high school, and it was the center of reading comprehension in the upper grades. The following logics were found in linguistic expressions and stories.

- Linguistic expressions such as repetitive expressions, color expressions, and metaphorical expressions
- Composition that contrasts with scene inheritance

When the logic contained in the text was taken out as an interpretation, logical thinking was also seen in the course of the lesson to enhance and confirm the certainty of the interpretation. This was seen in the lower, middle and upper grades, but was guided by teacher questions in the lower and middle grades and was more independent in the upper grades. Also, for the interpretation and confirmation of literary expressions, inductive thinking that gives multiple cases, analogical thinking based on similarity to one's life experience, and hypotheses to explain unique events in the story. Various thinking processes such as thinking were seen in a complicated manner. This also seems to be a characteristic of logical thinking when reading literature.

Furthermore, in the upper grades, there was also the idea of reading the symbolic meaning of expressions and the message conveyed in full text. These interpretations are produced by the reader rather than being text-specific. Such thinking can lead to a discussion of the importance and value of the text.

(Shigeo Mase)

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