

The Use of High Order Thinking Skills in a Story Telling Method in Order to Improve Children' Critical Thinking

Siti Aisyah and Denny Setiawan
Open University

ABSTRACT

Children need to be equipped with the ability to navigate the world and to think independently, not just recite facts. One of the thinking ability dimensions is creating thinking associated with the ability to explore ideas, conclude possibilities, and find correct answers more than one answer. In this era of globalization and advances in technology, where changes rapidly occur in community, creative thinking ability is a need for every human being who want to succeed in a variety of competitions. Therefore, the ability to think creatively should be given since the age of early childhood.

One way to develop critical and creative thinking is to give children experiences in thinking critically and creatively and it is known as high order thinking skills (HOTS). As basic of developing HOTS we can learning domains created by Benjamin Bloom. Accordingly there are three domains, these are cognitive, effective, and psychomotor

In Kindergarten level, to train high order thinking to children is through joyful activities and not through hard thinking exercises and it is satisfying kindergarten motto that is learn by playing and play while learning. One of joyful activities for children in which we can develop high order thinking skills is story telling. A structured and systematic story telling activity is story telling method, This method has been broadly used in many kindergarten because naturally there is no child who doesn't like a story. The purpose of this method generally is to develop language aspect of children development. However, other aspects can also be developed in line with the development of language, one of them is cognitive aspect

Usually, story telling method is attributed by ask and answer activities that can take place before, while, and after story telling. In this activities teacher ask the children what they have heard to check their understanding. Sometimes, the teacher ask them about the story before the story is delivered

to them. This strategy is to train them to predict a story by thinking about the title of the story. However, observations to some kindergarten classes showed that most of the teachers questions were about remembering something rather than asking them to think critically.

This paper will describe how teacher can make children think creatively and critically by using High Order Thinking Skills (HOTS) questions in a story telling activity.

Keywords: high order thinking skills, story telling method, children

A. Rationale

Many people believe that the age of 4 – 6 years is a sensitive period for children in which their potentials will develop in accordance with the environment where the children are. Therefore, the task of teachers is to develop children's potentials optimally by providing them with a planned environment and activities in line with their development. One of the potentials that need to be considered is cognitive aspect related to the ability of thinking (thinking skills) in a broad sense. The goal of teaching children the ability to think is to improve the quality of their thinking to be more depth, more consistent, and more effective. It is like what Rajendran Nagappan (2001) said:

”When we say want to teach the students to think, what we really mean is that we want to improve their quality of their thinking. We want to teach them to think more deeply, more consistently, more productively, and more effectively, than their otherwise might”

Teaching children to think needs a challenging environment and in direction to the achievement of high-level thinking, such as that was presented by Lesley Ann Buxton (2003) as follows:

”Teaching thinking involves the creation of challenging learning experiences which call for high level thinking”

The ability to think has many dimensions such as critical thinking, creative thinking and so on. The term critical thinking often be equated with other related terms such as analytical thinking, logical thinking, creative thinking, high-level thinking, and others. However, all these terms refer to the capacity to analyze situations, synthesis information, or to evaluate arguments, as presented by Geraldine Campbell (2007) as follows:

".....when educators talk about critical thinking, they are referring to the capacity to analyze a situation, synthesize information, or evaluate an argument"

It is believed that critical thinking ability will be able to determine success in the life of the owners in the world because they can think independently and not rely solely on the fact that there is. Geraldine Campbell (2007) said that children need to be equipped with the ability to navigate the world and to think independently, not just recite facts. One of the thinking ability dimensions is creating thinking associated with the ability to explore ideas, conclude possibilities, and find correct answers more than one answer. Like what Robert Harris (1998) said:

".....there is another kind of thinking, one that focuses on exploring ideas, generating possibilities, looking for many right answers rather than just one".

In this era of globalization and advances in technology, where changes rapidly occur in community, creative thinking ability is a need for every human being who want to succeed in a variety of competitions. Therefore, the ability to think creatively should be given since the age of early childhood, as told by Mitchel Resnick (2008) as follows:

"In a society characterized by uncertainty and rapid change, the ability to think creatively is becoming the key to success and satisfaction, both professionally and personally. For todays children, nothing more important than learning to think creatively – learning to come up with innovative solutions to the unexpected situations that will continually arise in their lives".

Critical thinking and creative thinking are related and they are aspects that complement each other in the ability to think. Almost all thinking we did involves critical and creatives thinking. For example, when we try to solve real life problems, we think back and forth between critical reflection and creative solutions to get or consider the consequences of some solutions.

One way to develop critical and creative thinking is to give children experiences in thinking critically and creatively and it is known as high order thinking skills (HOTS). As basic of developing HOTS we can learning domains created by Benjamin Bloom. Accordingly there are three domains, these are cognitive, effective, and psychomotor (Clark, 2007).

Domain that is related to human thinking is cognitive by which we can create human thinking levels standards in terms of high and low thinking level. This domain includes six thinking levels in general scales of cognitive complexities from the highest to the lowest level, these are knowledge, comprehension, application, analysis, synthesis, and evaluation (Forehand, 2005).

In Kindergarten level, to train high order thinking to children is through joyful activities and not through hard thinking exercises and it is satisfying kindergarten motto that is learn by playing and play while learning. One of joyful activities for children in which we can develop high order thinking skills is story telling.

A structured and systematic story telling activity is story telling method, This method has been broadly used in many kindergarten because naturally there is no child who doesn't like a story. The purpose of this method generally is to develop language aspect of children development. However, other aspects can also be developed in line with the development of language, one of them is cognitive aspect. In this case, Piaget (Hergenhahn, 1982) argued that thinking is a prerequisite for language skill and it continues developed as a result of experience and insight. Therefore, it can be concluded that in understanding a story, child's cognitive skills developed before his or her language skills.

Usually, story telling method is attributed by ask and answer activities that can take place before, while, and after story telling. In this activities teacher ask the children what they have heard to check their understanding. Sometimes, the teacher ask them about the story before the story is delivered to them. This strategy is to train them to predict a story by thinking about the title of the story. However, observations to some kindergarten classes showed that most of the teachers questions were about remembering something rather than asking them to think critically.

This paper will describe how teacher can make children think creatively and critically by using High Order Thinking Skills (HOTS) questions in a story telling activity.

B. Discussion

I. Thinking Skills

Thinking skill is one of important aspects in curriculum. Helping children to develop and improve their thinking skills is one of teachers' responsibility because thinking skills is important to the children for their future. Bob Kizlik (2009) in *Thinking Skills Vocabulary and Definisions* said that thinking refers to the process of creating a structured series of connective transactions between items of perceived information.

Meanwhile, the definition of thinking skill is one set of basic and advanced skills and sub skills that govern a person's mental processes. These skills consist of knowledge, dispositions, and cognitive and meta cognitive operations.

One of thinking skill dimensions is critical thinking. According to Larry Johnson & Annette Lamb (2007) thinking critically involves logical thinking and reason including some skills like comparing, classifying, separating, looking for cause and effect, looking for patterns, making connections, making analog, and raising deductive and inductive reasons. Critical thinking is defined by Bob Kizlik (2009) as a process of determining the authenticity, accuracy, or value of something: characterized by the ability to seek reasons and alternatives, perceive the total situation, and change one's view based on evidence.

The other dimension of thinking skills is creative thinking. To understand creative thinking, we have to understand what creative is. Creativity is to make something that didn't exist before and it can be a thing, a process, or an idea (Infinite Innovations Ltd, 1997–2001).

- Someone's creativity can be seen when:
 - Find something yhat didn't exist before
 - Find a new process of doing something
 - Reuse an existing process or product into a new different situasion
 - Develop a new way of viewing something
 - Change someone's view

(Infinite Innovations Ltd, 1997–2001).

Creativity doesn't always mean to create something new in this world, but rather to develop something new for ourselves. Therefore, creative thinking can be defined as a process which we use when we come up with new idea(Infinite Innovations Ltd, 1997–2001).

Without using a special technique or method, creative thinking still can appear but usually it happen that way. Changes happen slowly through the use of a progress in genuine intelligence and logic, and it will take a long time. By using special techniques, planned creative thinking can be used to develop a new idea. These techniques support the appearance of a new ideas that can be a trigger of a new thinking and process. This can happen faster compare to those that doesn't use special techniques. In fact, the two kinds of thinking skills often be operated together and cannot be separated clearly.

II. Higher Order Thinking Skills (HOTS)

According to Wiederhold, C. (1977) high order skills basically is high thinking skills at Bloom Taxonomy hierarchy. Bloom Taxonomy is an arrangement of hierarchy that can be widely accepted and can be seen as continuous thinking skills began from knowledge, comprehension, application, analysis and evaluation.

Benjamin Bloom created the taxonomy to categorize question abstraction levels that often raised in education field. The taxonomy provide a useful structure of thinking to categorize questions in tests.

III. Story Telling Method

Story telling method is a method that a widely used by kindergarten teachers because children like a story very much. Story telling according to Kusniati (2005) in Dhieni,(2005), is a verbal activity delivered by someone to another, using tools or not, convey a message, information, or just a story to hear with pleasure, and because of it, it must be interestingly and joyfully delivered.

About the definition of story telling method, Kusniati (2005) said that story telling method is a way of verbally delivering learning materials in a form of a story from a kindergarten teacher to students. Kindergarten teachers usually use story telling in main and closing activity, when children began to feel tiered after doing some activities. Therefore, they can physically have a rest while their brains are still working listening to the story. Telling a story is not as easy as usual speaking. It has to be interesting to children so that the children can enjoy the story and in turn they ask or answer a question about the story. This expected situation can satisfy the goal of story telling, according to Kusniati (2005), that is to make children able to carefully listen to someone's speaking, ask a question if they don't understand,

answer a question, and can retell and express what they've heard so that implicit messages of the story can be understood.

It can be concluded that the goal of the story telling activity is not just to make children listen to the story but moreover to pose and answer a question about the story. In other words. A story telling activity needs to be accompanied by an ask and answer activity. In doing ask and answer activities, teacher can use questions that make children able to have high order thinking skills. However, the teachers have to create levelly questions from an easy one to the hardest. In this case, they can use Bloom Taxonomy questions hierarchy especially cognitive domain. By using the taxonomy, the teachers will be able to make hierarchical questions from knowledge level to evaluation level.

IV. Examples Of The Implementation of High Order Thinking Questions.

While holding a story book, teacher can begin to tell a story by showing the cover of the book, reading the title, the name of the author, and the illustrator, on that cover. You can also ask children to guess the content of the book. Then read the book with a good expression, voice and gestures.

The friendship of caterpillars and flowers

In a small park, there lived a colony of caterpillar and also some Hibiscus and Roses flowers. They lived in harmony and friendly, until one day a Rose named Warni arrogantly said:

"Hey caterpillar! Don't eat our leaves anymore!"

"Yeah right! See ... our leaves damaged, go out of this park," said the other Roses.

Caterpillars felt very sad. They ate leaves of the flowers in the garden just for survive. If they did not eat, they would starve and died. Finally, by feeling sad, they went out from the park, but a Hibiscus prevented them.

"Hey, you don't go," said Red, a Hibiscus, to the caterpillar, "you can eat the our leaves at this park."

"Yes, we are willing to share our leaves to you," said another Hibiscus.

Caterpillar was very grateful for the kindness of Hibiscus.

"Thank you for helping us."

Finally, in the garden, Roses were the most beautiful flowers because their leaves intact. Sometimes some Roses mocked hibiscus because their leaves had been eaten by caterpillar and remained wholes.

One time, a woman came to the park. She said.

"I'll take a few flowers from here. Oh no the leaves of these Hibiscuses had been eaten by caterpillar. I'll take five roses because their leaves are still good."

Then the man pulled out five of Roses from the garden and went away. The park was grieving, especially the Roses. They lost five members. A Hibiscus suddenly whispered to a caterpillar.

"We must thank to you. If you do not eat our leaves, we may also be taken by people such as Rose's five. In the park, now only five of Roses left. The five Roses were afraid to be taken by humans. Eventually they realized their arrogance and said.

"You, caterpillar, please forgive our arrogance. You can now take our leaves. We fear would be lifted from the ground like the five of our family members."

"But the leaves are yours, it is your right to give them to us or not," Latu, the male caterpillar said.

"No, we are very sorry indeed," said Warni, "we should give our leaves to you for your food. We, as God creatures must help each other". Red, the Hibiscus, said. "That's right may-be some time ahead all flowers here will be plucked out by humans."

Hearing the words of the two flowers, the caterpillars were very touched and a caterpillar eagerly said.

"Thank you, you are very kind to us," said Latu with tears in his eyes, "someday we will pay you back!"

Several days passed, after the caterpillars ate the leaves of Roses and Hibiscus, ten of them turned into a cocoon. In a few weeks, the cocoons hatched and caterpillars changed into very beautiful butterflies. The flowers were amazed to see the change, and one of them said.

"Wow ... you have a new shape! You now have wings and so beautiful! "

"Thank you," said Latu who had become a butterfly, "Now we will fulfill our promise. We will pay you back. "

The ten butterflies helped the flowers spread the seed. They used their flying ability to evenly spread the seeds of Roses and Hibiscus in the park. The flowers were very grateful to the butterflies. Now the butterflies no longer ate leaves from flowers, but they ate honey which was very sweet and much better than leaves.

A few weeks later a number of flowers in the garden grew. Now in the park

there were hundreds of Roses and Hibiscus. Life in the park was colored by happiness.

But in the middle of that happiness, suddenly the woman came back. All the flowers waited to see what would happen to them. "Remember to this park even though you are picked!" Red shouted to the whole flowers. Red words encouraged the flowers to remain strong. When they were ready to accept the worst situation, the woman said.

"Oh God, this park is now beautiful! Flowers so much more and now there are butterflies around it. I will keep these flowers to remain entrenched and I will water them every day."

The woman then left the park without plucked a single flower. The whole park cheered because no flower was separated. All the Roses, the hibiscuses, and the butterflies were very happy. Until now, that's the reason why butterfly help spread seeds of flower, that is to payback the flowers that have given them leaves.

Here are some steps that can be done to develop critical thinking skills and innovative methods of storytelling.

Knowledge:

1. Make a list of the characteristics of each main character in the story by the following manner:

After telling the whole story, parents / teachers can ask children any figure in the story and how the characteristics of the figure. Then write the names and characteristics of the main characters in a paper. The next step is:

2. Match the name of the main characters in the story by drawing the main characters.

Children can reopen the book in doing this. Then explain each character and point out the pictures in the book in accordance with the character.

3. Identify the main characters in a cross words puzzle.

Once children understand the characteristics of the main characters in the story, then you can do other activities by using letter cards. This card is a piece of paper consisting of 2 words that reflect the characteristics of the main characters, for example, 1). Warni - arrogant 2). Red - kind, 3). Lātu - helpful. Explain each of these cards, ask your children to read aloud. Next, cut the card into 2 parts, then mix them randomly and ask the children to reunite the cut cards.

4. Set the names and the characters of the story in sequence.

The next activity is to sort papers containing the names and the characters, in order they appear in the story, then ask your children to read the story using their own language based on the order of the letter cards they have set by themselves. Then you can match the story line provided by the children with the story in the book, by reading back the story and ask children to listen.

Understanding:

Tell a story by using the pictures in order they appear in the story by using body movements, voice or expression, then ask the child to express ideas using words of their own.

1. Draw a picture to show what happened before and after a piece of the story. Images can be made by the children themselves.
2. Ask your children to guess what might happen after a picture shown to them.
3. Next ask children to arrange pictures that have been made based on time sequences of events in the story.
4. Ask the children to explain how the main characters in the sense of an arrogant Rose called Warni, a Hibiscus called Red, and a Caterpillar male called Latu who turned into a butterfly. Have them act out each characteristic of the main characters in the story.

Applications:

After you read the story ask children's opinion about the nature or the characteristics of each character, ask them to classify the nature of these, such as the nature of pride, relief, or want to win them. Then give examples of everyday life. After that, you can use the dolls and play some of the story, ask the children to continue the story. Then you can ask the children to:

1. Explain food favored by one of the main characters, such as a caterpillar. What was his favorite food, how he obtained the food and so on.
2. Ask the children to think about the situation experienced by one of the main characters and tell what they will do if they face a situation like that.
3. Then ask the children to give examples of people they knew who faced the same problem with the characters in the story, such as street children who struggled to find money and try to survive on the street.

Analysis:

1. Ask your children to identify general characteristics of the main characters, let the children express their own opinions, and ask your children to distinguish the characteristics of each main character, such as how the nature of Warni, Red and Latu, ask children to tell each of these characteristics.
2. The next step is to explain the differences of what can happen from something that does not happening the story, such as when the butterfly is not willing to fly to spread the seeds of Roses and Hibiscus evenly in the park, what do you think will happen and what difference does it make if the butterflies are willing to sow the seeds of Roses and Hibiscus.
3. You can ask the children to determine the opinion of the whole story, what part of the funniest, saddest, happiest, and the most extraordinary.
4. Once they can decide, ask for their explanation why they chose it!
5. Select an attitude of the main characters that are the same as what kids have to do in everyday life.

Synthesis:

1. For a new story, a child may be asked to tell based on the title of the story before the story presented. Use this activity as pre-reading activities, because reading for early childhood, not merely read the sentences, but can also read the images, so-called pre-reading activities.
2. Ask your children to give some new alternatives title for the story.
3. Also, you can ask the children to reconstruct the roles of the main characters to produce a different end of the story.
4. Next, ask the children to imagine that he becomes the main character of the story made.
5. Children can also create a new character and put it in the story.
6. Make your children sing along with music and lyrics of a song that might be sung by the main character and sing like the main character sings.

Evaluation:

1. Ask your children to determine which characters in the story he wanted to be able to play together all day and ask why.

2. You ask the children to determine whether a character should do or not to perform an act he did in the story, like a character from an arrogant Warni, and why did she do that?
3. Ask your children's opinion, if it occurs in everyday life.
4. Ask your children's opinion, why this story should be heard by other children.
5. Next, compare this story with the story that children's ever read before, and ask your children's opinion.

Bibliography

- Bloom B.S. (1984) *Taxonomy of Educational Objectives*. Published by Allyn and Bacon. Boston, MA. Copyright (c) 1984 by Pearson Education. Adapted by permission of the publisher.
- Campbell, G. (2007). *Think About It: Critical Thinking*.
<http://www2.scholastic.com/browse/article.jsp?id=3747160>
- Clark, D.R. (2007). *Learning Domain or Bloom's Taxonomy*.
<http://www.nwlink.com/~Donclark/hrd/Bloom.html>
- Dhieni, N. (2005) *Metode Pengembangan Bahasa*. Pusat Penerbitan Universitas Terbuka. Tangerang
- Lesley Ann Buxton. *History Teacher's Discussion Forum*, July 2003
<http://www.schoolhistory.co.uk/forum/index.php?showtopic=1564>
- Nichols, S. (2008). *Traveling with Your Child through The Public Schools: A road Map*
http://www.tellingthetruth.com/education_matters/ESSAYS_01/sandra_0401.html
- Resnick, M. mres@media.mit.edu
- Wiederhold, C. (1997). *The Q-Matrix/Cooperative Learning & Higher-Level Thinking* San Clemente, CA: Kagan Cooperative Learning