

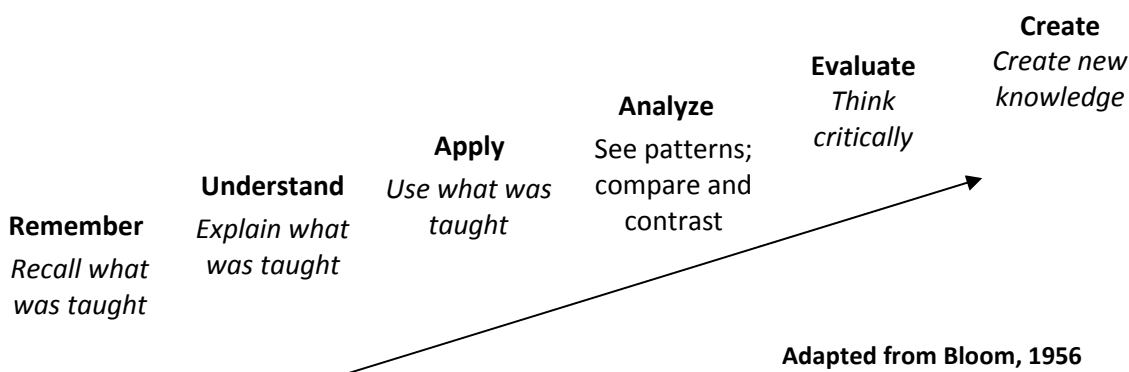
Curriculum, teaching and learning materials and activities that help students become higher level thinkers and learners

Workshop on Bridging between languages in MTB MLE programs

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In 1956, a group of educators developed a classification of educational learning objectives which, over a period of years, came to be known as “Bloom’s taxonomy of learning objectives” or simply “Bloom’s Taxonomy.” Although the original classification divided the learning objectives into several “domains”, the part that has had the most direct influence on many teachers is often called “levels of learning.” Although the original classification placed “evaluation” at the highest level, most educators now agree that creativity is at the top because all the other levels are necessary in order for creativity to be possible.



A goal of MTB MLE is that students will use their L1 and the school language confidently at every level of learning. All the levels can be incorporated into each subject, beginning in the first year of school because the students are learning in a language they understand and the lessons begin with what they already know.

The chart below presents information that education planners and teachers can use to incorporate the levels of learning into curriculum and classroom activities. The first column in each section gives the level that is in focus. The second column describes the learning objectives for that level. The third column lists action verbs that can be used for planning outcomes and indicators as well as classroom activities for different subjects. The box just below each level lists examples of questions that teachers might use to assess students’ ability to learn at that level.

Instructional Objectives: Bloom's Taxonomy of Educational Objectives¹ with questions for students at each level:

<p>Level 1: REMEMBER</p>	<p>At this level, students should be able to... recall knowledge such as facts, terminology, strategies and rules.</p>	<p>Action verbs relating to this level</p> <p>describe identify label list name select label define state match</p>
<p>Examples of questions to assess remembering:</p> <ul style="list-style-type: none"> ▪ <i>How many children are in this story? What are their names?</i> ▪ <i>What are they doing?</i> ▪ <i>Where were they going?</i> ▪ <i>When did they see the tiger?</i> ▪ <i>What did they do then?</i> ▪ <i>The children in the story found a cave. Describe the cave.</i> ▪ <i>There are 4 people in the story. List them by name</i> 		
<p>Level 2: UNDERSTAND</p>	<p>At this level, students should be able to... summarize, make connections, draw conclusions, recognize relationships</p>	<p>Action verbs relating to this level</p> <p>explain estimate defend estimate summarize summarize predict convert translate predict defend distinguish paraphrase</p>
<p>Examples of questions to assess understanding:</p> <ul style="list-style-type: none"> • <i>What would be a good title for the story you just read? Why did you choose that title?</i> • <i>How long do you think it took the girl in the story to train her dog to bring her the ball?</i> • <i>Why was the dog barking so loudly?</i> • <i>What do you think the girl would do if the pig chased her instead of her brother?</i> • <i>Look at the 5 countries on the map. List them in order from largest to smallest.</i> • <i>The rectangle and the square have the same perimeter. What is the length of one side of the square? Then, what is the perimeter of both the square and rectangle?</i> • <i>Read the paragraph and then write the main idea of the paragraph.</i> 		

¹ From *Instructional Objectives: Bloom's Taxonomy of Educational Objectives*
<http://www.ctn.state.ct.us/civics/bloom.asp> Adapted and extended by Susan Malone.

Level 3: APPLY	At this level, students should be able to... apply what they have learned in different contexts.	Action verbs relating to this level change organize use prepare transfer solve relate develop operate compute modify demonstrate
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Examples of questions to assess application:

- *How much will you pay for 2 kilos of sugar if the price is 26 baht per kilo?*
- *What is another way to write this math problem? $5 + 5 + 5 + 5 = 20$?*
- *Which of the 3 sentences below best describes a person who is “furious”?*
- *Look at the objects in the picture below and number them from largest to smallest,*
- *Is $1/3$ before, between or after $1/4$ and $1/2$?*
- *Describe what you would do to measure the area of this room.*

Level 4: ANALYSE	At this level, students should be able to... identify similarities and differences among facts, opinions, assumptions, hypotheses, and conclusions.	Action verbs relating to this level break down classify deduce diagram compare contrast illustrate subdivide outline distinguish categorize differentiate
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Examples of assessment questions:

- *Look at the two pictures. What parts are the same and what parts are different?*
- *Look at the diagram below and then look at the two descriptions of the diagram. Which description is the most accurate in explaining the diagram?*
- *Which tool in the picture is the most useful for building a fence?*
- *Why did the children in this story start fighting?*
- *What parts of the story from yesterday are the same as the story for today? What parts are different?*
- *Which of the items in the list below are parts of a plant?*
- *Separate the animal pictures into categories based on your own thinking.*

Level 5: EVALUATE	At this level, students should be able to... form judgments and make decisions about the value or worth of methods, ideas, people, and products and state a basis for their argument.	Action verbs relating to this level judge appraise defend criticize justify support validate
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Examples of assessment questions:

- *Which person in the story do you think had the best idea for solving the problem? Why do you think that?*

- *If someone asked you to help them steal some money from an old man, what would you do?*
- *Which food do you think is better for you: a guava or some candy? Why do you think that?*
- *Some people think that children should do whatever adults tell them to do and not ask questions. Tell us if you agree or disagree and give reasons for your answer.*
- *Is it better to cut down the forests so we can build more houses or is it better to leave the forests and build apartments that will provide housing for many people? Give reasons for your answer.*
- *What is the most important thing that parents can teach their children?*
- *Look at the list of responsibilities and put them in order from most important to least important.*

Level 6: CREATE	At this level, students should be able to... use what they have learned to develop something new or different	Action verbs relating to this level create design produce compose compile devise predict formulate
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Examples of assessment questions:

- *What would you do if you were in this story?*
- *Can you make up a story about this topic?*
- *What would happen if your community and the community closest to you were combined into one community?*
- *What would you do if you and your friends were in the forest and one of your friends broke her leg?*

Higher level questions for teacher trainees

A productive activity for pre- and in-service teacher training is for teachers to analyze questions and activities such as those that follow and say what they think is the level of thinking required by each one. Obviously, for this topic (and all topics) the exercise is best when teachers can debate any differences of opinion regarding the level.

Analyze these questions. Which level of learning are they?

1. What year did Mr. Obama become president of the USA?
2. (Story about 2 boys that tried to build a cart. The cart broke the first time they tried to ride in it.)
Why do you think the cart broke?
3. If you and your 3 friends have 2 bananas, how will you divide the bananas so everyone gets an equal share?
4. How are water buffaloes and cows the same and how are they different?
5. What is the name of the capital city of Ethiopia?
6. (Story about two boys who wanted to get into a good school. The father of one boy took his son to the school and gave the principal money to let his son enroll in the school. The father of the other

boy refused to pay the principal to let his son enroll. The boy whose father gave money to the principal got into the school. The other boy did not get into the school.)

What happened to the boys? What do you think about the two fathers? Which father do you think loved his son the most? Why do you think that?

7. Can you draw a picture and tell a story about your favorite animal?
8. *(Story about a mother who was going to the market to buy food for her family. When she got to the market she realized that she had lost her money!)* What do you think will happen next? What will the woman do?
9. Do you think that children should have to purchase their own school supplies?
10. If a woman needed a warm sweater but she also wanted to buy a DVD, which one should she buy first, and why?
11. *(After a lesson about the "Food Groups").* *What food should you eat to help you grow strong and healthy?*
12. *(Story about a girl who found 100 Birr just outside her neighbor's house. She put the money in her pocket and used it to buy sweets at the store.)* What do you think about that girl? Was it okay for her to keep the money? What would you do if you were that girl? Would you try to find out who lost the money or would you keep it?
13. What are the colors of the flag of Ethiopia?
14. What do you think we can do to stop global warming?
15. Can you make up a song about your family?
16. What would happen if everyone in Mizan had a motorbike?
17. *(Students listen to a story about some children who went to the forest to find food but they got lost in the forest. They were very frightened. But their mother and father looked and looked for them. Finally they found the children and took them home. Everyone was very happy.)* Divide the story into parts: beginning, middle and end. Why did you divide it that way?
18. What are some things that we can do to keep ourselves healthy?
19. What are the colors of the flag of Ethiopia?
20. *(Story about a girl whose friend died of malaria.)* *Why did the girl feel so sad?*

Analyze these activities. What level of learning are they? What could you do to move them to a higher level?

1. Students list the four food groups
2. Students plan a meal that has all four of the food groups.
3. Children discuss real examples of things which have happened to them regarding food contamination.
4. Students pretend that they own a restaurant. They explain what steps they would take to ensure that the food they served in their restaurant was wholesome and not contaminated by harmful organisms.
5. Students carry out a survey of places where water could remain stagnant such as blocked gutters, blocked drains, old containers, blocked ditches etc. They devise ways of removing stagnant water.
6. Students use role plays and discussions of case studies to practice ways of showing love and affection to those who are living with HIV AIDS.
7. Students list the ways in which society uses water.

8. Students discuss in groups how water is being wasted in their homes and locality in general, and suggest ways of using water economically.
They show how water is important for their region and draw diagrams of simple water saving and storage methods.
9. Students make a list of wild animals.
Students draw and color the animals and the lists and pictures could be used to make a display in the classroom.
10. Students make a list of the effects of heat. They carry out simple experiments to demonstrate that heat:
 - Can make objects hotter
 - Can cause objects to change shape
 - Can set fire to things and make them burn
11. Students are shown traditional musical instruments or pictures of them. They learn the names.
12. Bring a box of loam soil to the classroom and let the students observe this soil. They observe plants growing in loam soil in and around the school.
13. Students create and color a pamphlet describing one of the places of interest in their region. The pamphlet should inform a tourist of things to see and do.

Now, what do YOU think? Why do you think we should emphasize higher level thinking? Do you think this will benefit the students? Explain your thinking.



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Resources

Bloom, Benjamin M. Englehart, E. Furst, W. Hill, and D. Krathwohl. 1956. *Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook I: Cognitive Domain*. New York: Longmans Green.

Assessment questions

http://www.ets.org/Media/Tests/ParaPro_Assessment/0755.pdf

Bloom's questions

http://www.learnerslink.com/bloom%27s_questions.htm

Bloom's Taxonomy of Learning Domains. The Three Types of Learning

<http://www.nwlink.com/~donclark/hrd/bloom.html>

Primary Math (Grades 4 and 5) - Free Questions and Problems With Answers

http://www.analyzemath.com/primary_math.html

Techniques for Writing Multiple-Choice Items that Demand Critical Thinking

<http://tep.uoregon.edu/resources/assessment/multiplechoicequestions/sometechniques.html>

Tools and Tips for Teaching and Learning

<http://www.schreyerinstitute.psu.edu/Tools/>