

# Teaching Methodology: Developing Rubrics to Evaluate Critical-Thinking Discussions

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Rubrics are valuable educational tools and benefit educators and learners equally. They benefit educators by streamlining the workflow involved with assessing students' abilities and by facilitating clear communication with other educators about assessment practices. Rubrics benefit learners by supplying them with an easy to understand path to success and clear feedback.

Fulcher and Davidson (2007) define a rubric as a statement that describes what a student can do at a particular point on a rating scale. Rubrics comprise of two components: a rating scale (e.g. 0 to 5, A to D, Level I to Level V, etc.) and a description of the requirements necessary for each interval of the scale. By their nature, rubrics reinforce the notion that there is a hierarchy of skills—in the case of education, cognitive skills. As students progress through the skills, they come closer to mastery of the target subject. In this way, rubrics serve to mark students' progress from the low end of the scale to the higher end. Rubrics offer valuable feedback to students who wish to improve towards mastery in the subject area.

While this article is not a research article, it does provide a glimpse into the author's methodology and approach to designing the rubrics that he uses to assess students' critical thinking skills through pair discussions. The article will explain how the author developed a rubric to assess the critical thinking activities found in the English language textbook *Reading Explorer II* (MacIntyre, P. and Bohlke, D., 2015). It will also describe how the author improved upon earlier versions of the rubric allowing for more ease of use while assessing students and more clarity when given to students as feedback.

## **Critical Thinking Discussion Activity**

*Reading Explorer II* (comprising of both a textbook and DVD) consists of twelve units

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(chapters) numbered 1 to 12. Each unit consists of three parts (two sub-units and a video section, which is on the accompanying DVD) that reinforce the unit's particular theme. For example, Unit 1's theme is "Food and Health." Unit 1 is then divided into Unit 1A titled "Sweet Love," which is about sugar consumption, Unit 1B titled "Food for the Future," which is about the global food supply, and finally a video titled "Olive Oil," about the cultivation and consumption of olives in the Mediterranean. In total there are twenty-four sub-units and twelve videos.

Although the accompanying DVD has videos meant to boost students' listening skills, *Reading Explorer II* focuses on building learners' reading skills (as opposed to other skills such as speaking, public speaking, or writing), as the title suggests. The textbook does this by introducing a text which is based on each unit's theme, followed by textbook activities designed to improve students' reading skills and vocabulary knowledge. Figure 1 shows each unit's general pattern.

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**Figure 1: Activity Sequence for *Reading Explorer II***

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Introduce the unit's theme	Warm-up discussion questions to do with a partner
Sub-unit "A"	Pre-reading Activity Text reinforcing the unit's theme Reading comprehension exercise Reading skill exercises Target vocabulary practice
Sub-unit "B"	<i>repeat sub-unit A's pattern</i>
DVD Viewing	Pre-watching warm up activity "While You Watch" activity Post-watching comprehension-activity

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Apart from building students' ability to read and understand challenging texts, MacIntyre and Bohlke added activities to encourage students' L2 critical thinking skills. They did this by including critical-thinking discussion prompts that are found in "Reading Skills exercises" section (see Figure 1) of each of the A and B sub-units. Figure 2 shows the critical thinking discussion prompts from the textbook's first four sub-units.

**Figure 2: Examples of *Reading Explorer II*'s Critical Thinking Prompts**

Unit	Theme	Sub-sections A and B)	Critical Thinking Prompts
1	Food and Health	1A: Sweet Love	Do you think manufacturers have a responsibility to reduce the amount of sugar in the products they sell? Why or why not?
		1B: Food for the Future	Do you think saving the world's varieties of foods is as important as saving animal species from extinction?
2	Our Bond with Animals	2A: Song of the Humpback	What reasons does the author give for the humpback whales' singing? What other reasons can you think of?
		2B: Dogs in a Human World	Dogs are often called "man's best friend." Do you think it's true? What other animals have a close relationship with humans?

A teacher's guide (MacIntyre, P. Bohlke, D., and Sheils, C., 2015) accompanies *Reading Explorer II*. The teacher's guide provides descriptions of the multiple sections found in each unit and identifies how they benefit the student. The section of the guide titled "Unit Walkthrough" provides the description for the Critical Thinking activity:

*A Critical Thinking challenge question at the end of each Reading Skill page encourages students to work together, discuss, and support their opinions.*

Through this description one may see that the Critical Thinking task is meant to be an active learning task; however, the teacher's guide does not give any advice on how to assess or evaluate this activity. This is not as unusual as it may sound, given that the focus of the book is on reading and not speaking.

### **The TPS Teaching Strategy and the Critical Thinking Task**

Previously the author conducted this critical thinking activity in class following the "Think-Pair-Share" (TPS) method. Following this method, students thought quietly about the questions and wrote some notes for about 3 minutes (i.e. "Think"). Next, the students would

make pairs and discuss their opinions and ideas with their partner for approximately 2 minutes (i.e. “Pair”). Finally, having been selected randomly by the instructor, students shared what they discussed with their partner with the entire class (i.e. “Share”).

The TPS method is an adequate way to conduct this critical thinking activity. Students can express their own opinions at various levels of communicative fluency, which is the goal of the textbook’s critical thinking activity. Upon careful observation, however, it appeared as though students generally avoided the challenge of using the target vocabulary presented in the units, preferring instead to use the vocabulary they [presumably] had mastered prior to joining this class. Upon noticing this the author designed a more structured critical thinking activity. The students continued to do the new activity in pairs, but they needed to complete it within a certain time limit (e.g. 2 minutes, 3 minutes, etc.), during which the author would carefully listen and evaluate them using a rubric.

### **Designing the Rubric**

The author designed a rubric for the *Reading Explorer II* critical thinking activities that consisted of four domains and a numerical scale of 1 to 5. The four domains are “Balance,” “On Topic,” “Fluency,” and “Vocabulary.” A score of “1” is at the lower end of the scale, and “5” is at the higher end of the scale. The lowest possible score is a score of 4 (barring the student being absent, in which case they get a zero) and the highest is a 20. The following is a description of the domains.

### **Rubric Domains**

#### *Balance*

Balance (particularly in a pair discussion) is a critical characteristic of conversation. If one partner is doing all the talking, then they may appear as being bossy, arrogant, or some other [usually] negative trait. Not only does evaluating the pair’s balance help reinforce social norms and conversation etiquette, but it also encourages both members to state their opinions and thus display both students’ critical thinking ability. Furthermore, proper balance between speakers exemplifies the students’ ability to “work together” and “discuss” their opinions, which is a goal of the Critical Thinking task according to the teacher’s guide cited above.

As stated earlier, the pairs had a limited amount of time during which to have their discussion. With this in mind, the purpose of the Balance domain is to assure that one student in the pair is not dominating the conversation. Typically the student with the stronger English

ability or with more confidence would dominate the TPS discussions, thus not allowing their partner enough opportunity to grow, build their own confidence, or express their opinion. This domain penalizes such one-sidedness and rewards evenly balanced discussions.

### *On Topic*

On Topic means that the students' discussion follows the prompt found in the Critical Thinking task. The Critical Thinking tasks in *Reading Explorer* are only loosely connected to the reading and video topics. The tasks requires students to present their own ideas and experiences, so simply reciting the information found in the readings and videos is insufficient for performing well in this activity.

The On Topic domain encourages students to remain focused on the topic and to continue their conversation for the entirety of the allotted time. Oftentimes, a student would perhaps tell a joke or say something funny and then the pair would continue on that tangent (not related to the topic) for the remainder of the time. This domain reinforces the idea that merely speaking for the whole allotted time is not the goal. Instead the members of the pair must express their opinions and respond to the prompts clearly to receive a high rating.

### *Fluency*

While the purpose of the text book activity is to promote critical thinking, evaluating the students' communicative ability (i.e. speaking) is also a component of the task. While the rubric domains On Topic and Balance evaluate the students' critical thinking, this domain evaluates their communicative speaking skills.

The Fluency domain evaluates how smooth the students speak. There is a variety of reasons why students may not speak smoothly, but one main reason is that the students have not adequately prepared by reading the text, learning the target vocabulary, or reflecting on the text. Students who have not prepared tend to speak in incomplete thoughts or incomplete sentences. They also tend to rely heavily on filler-speech like ahhh..., hmmm..., errr..., other utterances, or sometimes with just silence.

### *Vocabulary*

A common trend the author observes during this and other speaking activities in his classes is that students tend to rely on their most basic vocabulary during impromptu speaking activities. While relying on words one has mastered prior to joining this class is satisfactory for

actively participating in impromptu pair and group discussions, doing so does not promote the learning and practicing of the target vocabulary found in each respective textbook unit. Since Vocabulary is a rubric domain, students understand that they must use the target vocabulary correctly. Ideally reinforcing the target vocabulary in this way will improve their overall language proficiency. It will also make the opinions they share more convincing, as the target vocabulary is often more professional and academic than the vocabulary they have learned previously. Furthermore, using the target vocabulary during the discussion is a way in which students may support their opinions, which is a goal of the Critical Thinking task according to the teacher's guide.

The Vocabulary domain is perhaps the most challenging domain. To receive a high rating in this domain, students must correctly use the unit's target vocabulary in their discussion. This domain prevents students from using language they learned (and maybe mastered) previously and challenges them to use target vocabulary. This domain is important because it reinforces the target vocabulary for that particular unit—vocabulary that they will need for university level writing and presenting papers, not to mention that the target vocabulary appears later in the course on both the midterm and final exam.

### **Rubric Layout & Modifications**

Figure 3 shows how the author arranged the rubric on A4 paper.<sup>2</sup> Using Microsoft Word, he used Word Tables to set up the rubric on page 1 of the file. Next, he inserted a page break (which created a second page), copied the whole of page 1, and pasted it on page 2. Then, when printing the rubrics for class, he selected the “two pages per sheet” option, which prints the 2-page file on one, A4 sheet. Printing the rubric in this manner allows for two pairs' (four students') evaluations to be on one sheet of paper, which saves paper and printing time.

At the top of the rubric is a section labeled “Topic & Time.” Since this is for *Reading Explorer II*, instructors can write 1A, 1B, etc., to indicate which critical thinking prompts they are assessing. Having a record of the time limit (e.g. 1 min., 2 mins., 3 mins., etc.) is also helpful for both the instructor and the student to reference later.

The instructor can either type in the names of the pair before printing the rubric, or just as easily write them while evaluating them. If there is an absence or some other reason to change partners, it is sometimes better having blank name-sections and writing the names in

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<sup>2</sup> Figure 3 and the following figures are originally made to fit on A4 paper, but have been cropped to fit the pages of the journal.

later by hand.

While the instructor is listening to the pair's discussion, they may quickly just circle the appropriate description for each domain. For example, circling "one-sided" balance for the Balance-domain would thus correspond to a "3" on the scale. The students can then clearly see that they, as a pair, received three points in that domain. The instructor may also draw a circle straddling "one-sided" and "good balance among speakers," which could be evaluated as a "3.5" on the scale.

**Figure 3: Example of the Critical Thinking Discussion Rubric Layout**

		Topic & Time: _____							Topic & Time: _____				
Name: _____		1	2	3	4	5	Name: _____		1	2	3	4	5
Balance	no sense of a conversation occurring	interview style, one member doesn't speak enough	one-sided balance	good balance amongst speakers	very good balance and <i>attachi</i> (active listening)		Balance	no sense of a conversation occurring	interview style, one member doesn't speak enough	one-sided balance	good balance amongst speakers	very good balance and <i>attachi</i> (active listening)	
On Topic	completely off topic	I'm not sure what the topic is	introduction is too long—off topic	basically on topic	on topic whole time		On Topic	completely off topic	I'm not sure what the topic is	introduction is too long—off topic	basically on topic	on topic whole time	
Fluency	both/all sides don't speak smoothly, many short/long pauses	a long pause(s), silence	many short pauses, both or all members don't have smooth speech	maybe a short pause, a member doesn't speak smoothly	members speak smoothly		Fluency	both/all sides don't speak smoothly, many short/long pauses	a long pause(s), silence	many short pauses, both or all members don't have smooth speech	maybe a short pause, a member doesn't speak smoothly	members speak smoothly	
Vocabulary	0-1 new vocabulary	2 new vocabulary	3 new vocabulary	4 new vocabulary	5 new vocabulary words		Vocabulary	0-1 new vocabulary	2 new vocabulary	3 new vocabulary	4 new vocabulary	5 new vocabulary words	
<i>(-0.5 for speaking Japanese)</i>						<i>(-0.5 for speaking Japanese)</i>							
Note/Vocabulary Words:						Note/Vocabulary Words:							

Under the rubric in italics it says, "-0.5 for speaking Japanese." Sometimes students say things, like *chotto matte* (just a moment) or *sumimasen* (sorry; excuse me) during their discussions. This code switching, or slipping into their native language, is usually thought to be indicative of the speakers' fluency, but more times than not, it is indicative of laziness or a lack of seriousness towards the activity. Therefore, this penalty affects the overall score and not solely the Fluency domain. Uttering things like *etto* (let me see...) or *anō* (hmmm...) also incurs the half-point penalty. The reason for this penalty is to encourage students to make their speech more native-like and to discourage code switching.

When printed as two-pages on one-side of an A4 paper, this early version of the rubric has a lot of space at the bottom of the page for the instructor to write comments and suggestions. Also, since students needed to use target vocabulary words, it was important for the instructor to write down exactly which target vocabulary the students said, in case there was any doubt about their assessment score.

## Version II

Figure 4 shows the rubric with an added vocabulary list in the bottom left of the page. This was the first improvement the author made to the rubric after using it for a semester. Sometimes it is difficult for instructors to actively listen to the pair's discussion, while at the

**Figure 4: Rubric with Vocabulary Checklist**

		Topic & Time: _____				
Names	1	2	3	4	5	
<b>Balance</b>	no sense of a conversation occurring	interview style; one member doesn't speak enough	one-sided balance	good balance amongst speakers	very good balance and <i>aizuchi</i> (active listening)	
<b>On Topic</b>	completely off topic	I'm not sure what the topic is	introduction is too long—off topic	basically on topic	on topic whole time	
<b>Fluency</b>	both/all sides don't speak smoothly; many short/long pauses	a long pause(s); silence	many short pauses; both or all members don't have smooth speech	maybe a short pause; a member doesn't speak smoothly	members speak smoothly	
<b>Vocabulary</b>	0-1 new vocabulary	2 new vocabulary	3 new vocabulary	4 new vocabulary	5 new vocabulary words	
<i>(-0.5 for speaking Japanese)</i>					<b>Score:</b>	
<b>Notes/Vocabulary Words:</b>						
continent    marketplace						
crop        scale						
extinct    seed						
furniture    solely						
flavor      suggest						
historic    variety						

same time trying to recall the target vocabulary and then write them as the students say them. This added vocabulary list allows the instructor to check off the words easily as the students say them. This simple improvement gives the instructor more time to write concrete feedback and suggestions for the pair to review.

## Latest Version

Figure 5 shows the latest version of the critical thinking discussion rubric. One may see many modifications to it, compared with the earlier versions. Although the 1 to 5 scale and the domains are the same, this newest rubric has more specific On Topic domain descriptions,



which were added to help evaluate whether or not the students reinforced their opinions, and if not, to help them understand how they may do so next time. This version also has some minor, cosmetic improvements like horizontal lines separating the domains, making it easier to see where the domain descriptions end.

**Figure 5: Latest Modified Rubric for Critical Thinking Discussions**

		Topic & Time: Unit 10B Video ( mins)				
Names	1	2	3	4	5	
<b>Balance</b>	no sense of a conversation occurring	interview style; one member doesn't speak enough	one-sided balance	good balance amongst speakers	very good balance and <i>aizuchi</i> (active listening)	
<b>On Topic</b>	completely off topic	I'm not sure what the topic is; OR missing info	introduction is too long—off topic ( <i>missing info like a Reason or Example for their opinion, or an example of their own town's tradition</i> )	basically on topic ( <i>position is clear; states one Reason &amp; Example; gives an example of their own town's tradition</i> )	on topic whole time ( <i>position is clear; states multiple Reasons &amp; Examples; gives an example of their own town's tradition</i> )	
<b>Fluency</b>	both/all sides don't speak smoothly; many short/long pauses	a long pause(s); silence	many short pauses; both or all members don't have smooth speech	maybe a short pause; a member doesn't speak smoothly	members speak smoothly	
<b>Vocabulary</b>	0-1 new vocabulary	2 new vocabulary	3 new vocabulary	4 new vocabulary	5 new vocabulary words	
(-0.5 for speaking Japanese)					<b>Score:</b>	
<b>Notes/Vocabulary Words:</b>						
bill(s)	plant(s)					
corporation(s)	quantity(ies)					
ford	resource(s)					
fund(s)	(to) scowl					
gem	starving					
harpoon	sufficient					
"make a living"	urgently					

The changes in the On Topic domain descriptors are now specific to each unit of *Reading Explorer II*. The original rubric (Figure 3) could be quickly printed out and used for any unit in the textbook. The next version of the rubric (Figure 4) required that the instructor type the respective vocabulary lists into the rubric before printing it out and using it. This latest rubric not only has the unit-specific vocabulary list, but the On Topic domain descriptors are

also specific to the unit's critical thinking topic.

Figure 5 is the rubric for Unit 10B, "Last Days of the Ice Hunters." The textbook presents the critical thinking prompts to the students as follows:

*Discuss with a partner. Do you think the government and/or other organizations should help the ice hunters maintain their way of life? Why or why not? Are any traditional practices disappearing where you live? How do you feel about it? (MacIntyre, P. and Bohlke, D., 2015, p157)*

This critical thinking prompt consists of two components. The first is about whether governments and other organizations support the ice hunters, and the second concerns the student's hometown traditions. According to the new rubric, students must clearly address both of these topics to earn a "5" rating in the On Topic domain. Below are descriptions of how the author tailored the new rubric specifically for Unit 10B.

A "1" for On Topic ("completely off topic") remains the same.

A "2" was previously "I'm not sure what the topic is." The author modified this to "I'm not sure what the topic is; OR missing info."

The author modified the "3" rating to include "missing info like a Reason or Example for their opinion, or an example of their own town's tradition" to accompany "introduction is too long—off topic." This reinforces the idea that in a good, convincing critical thinking discussion, examples should accompany reasons, whenever possible.

The new "4" rating now includes "position is clear; states one Reason & Example; gives an example of their own town's tradition" along with the simple and vague "basically on topic" from earlier versions. If the pair only addressed one of the components of the discussion topic, then they would have earned a "4" rating.

The new rubric makes it clear that in order to earn a "5" rating in the On Topic domain both components of the discussion prompt must be met. Therefore, "position is clear; states multiple Reasons & Examples; gives an example of their own town's tradition," now accompanies "on topic whole time," which was vague, and somewhat subjective.

### Conclusion

English language instructors in Japan regularly use and encourage the use of the TPS method. Indeed it is useful method to encourage active learning and to promote cooperation

among students. It also takes virtually no preparation time at all on the part of the instructor. Indeed the author had been employing the TPS method regularly, especially for the Critical Thinking activities in *Reading Explorer II*. Simply following the TPS method alone, however, does not provide adequate feedback for students to reflect upon for improvement, nor does it give them clear goals to work towards in order to improve their ability to clearly convey their opinions (i.e. ability to think critically).

All too often instructors evaluate students subjectively, whether deliberately or not. Subjective assessments can change from one day to the next day, or from one student to the next student. Such assessments do not provide students clear feedback that they may use to improve their critical thinking discussion ability. Evaluating students in this way can be erratic and unfair. Rubrics can certainly be subjective, too, but a well-designed rubric that is developed over time can gradually become a clear, objective tool by which to assess students. Students will benefit from such rubrics because they will know exactly how they will be assessed and thus how they must prepare. They may also benefit by knowing that they are being assessed fairly and evenly along with the rest of the class.

When instructors use rubrics such as the ones described in this article, students have access to clear, tangible feedback. Students (particularly those with a desire to improve) may read the notes and feedback written on the rubrics and know exactly what their strong and weak points are. They may also chart their improvement (or lack thereof) by looking at the score provided to them using the rubric's scale.

With these propositions in mind, it would behoove instructors who work together in English language programs to develop rubrics together and utilize them in their classrooms. Finally, students, when given the chance should pay more attention to the feedback they receive from rubrics and determine their study plans based on that feedback.

### References

- Fulcher, G. and Davidson, F. (2007). *Language Testing and Assessment: and Advanced Resource Book*. London: Routledge.
- MacIntyre, P. and Bohlke, D. (Eds.). (2015). *Reading Explorer II* (2<sup>nd</sup> ed.). Boston: National Geographic Learning.
- MacIntyre, P., Bohlke, D., and Sheils, C. (2015). *Reading Explorer II: Teacher's Guide* (2<sup>nd</sup> ed.). Boston: National Geographic Learning.