**Case 1. Teaching Creative Thinking**

**Background**

Indonesia, in many aspects, is a very diverse country. We have over 300 indigenous ethnic groups, more than 700 local languages, and various religious beliefs. We have a long story of living harmony in diversity. However, many people feel and believe that we tend to become fragile from time to time. Our socio-cultural richness has been exploited by our greedy politicians, unethical businessmen, and people who strive to benefit from our social turbulences. Competitions between politicians or political parties easily transform into racial, social group, or religious issues. Hostility, hatred, antipathy, and aggression become easier to ‘communicate’.

Nowadays, the 21st century highlighted by the advancement of the Internet, social media, and mobile devices have offered new way of learning, communicating, and socializing. The world becomes flat and borderless. Undoubtedly, people have gained many advantages from those new emerging technologies. However, people’s readiness and abilities in making use of those technologies also become a potential driving factor of new social problems. As regards recent social situation in Indonesia, those aforementioned people with their vested interest have deployed the emerging new media as a shortcut to the influence of public opinions. In July 2014, Indonesia ran a presidential election. During the campaign period, the people were bombarded by negative campaigns used to attack both presidential candidates. Issues of race, ethnic, religious beliefs, ideology, and even physical appearances are some to mention that were used to gain political supports and votes.

This background gives an obvious fact that people should have critical thinking ability to comprehend, analyze, and evaluate information they gather. This ability will enable them to respond to social phenomena proactively. In this regard, schools play an important role to educate students and help them acquiring knowledge and skills to live their future lives.

Thus, the issue to be discussed in this case is “how teachers in schools can teach critical thinking skills to their students?”

**Related Concepts**

Paul and Elder (2014) say that **critical thinking** is “the art of analyzing and evaluating thinking with a view to improving it… It is a self-corrective thinking (p.2).” Therefore, a critical thinker:

* Formulates problems clearly;
* Gathers and assesses relevant information;
* Comes to well-reasoned conclusions and solutions;
* Thinks openmindedly within alternative systems of thought;
* Communicate effectively with others in figuring out solutions to problems.

As the R546 class has discussed a video on critical thinking (<http://youtu.be/GzV1pNQUX5s>) in the Week 4, I will say that critical thinking basically is human nature. As a learning being, human by nature critically thinks what she/he senses as the process of getting the true knowledge. For instance, when someone sees surprising information on her/his friend’s Facebook status, she/he most likely examines that information before sharing or accepting it as a fact. However, someone may become less critical when thinking ability is hindered by factors such as bad thinking habits and emotions.

**Resolution**

Solution for teaching critical thinking is described as follows:

1. Teacher makes lists of **Evaluative Questions**. The lists should be categorized in to class activities or processes. Some examples of evaluative questions listed in categories.
	1. List of evaluative questions for reading or paper assignments. This meant for guiding students to read or write papers critically.
		1. What is the main purpose of this reading?
		2. What is the key question that the author addresses?
		3. What is the most important information in this article?
		4. What are the implications of author’s line of reasoning?
		5. What are other possible points of view in this topic?
	2. List of evaluative questions for class discussion. The following questions are to be asked by teacher during class discussion to develop their critical thinking habits.
		1. Could you elaborate that further?
		2. Could you give me an example of that?
		3. How could we check on that statement?
		4. Do we need to consider another point of view?
		5. Does all this make sense together?
		6. Does what you say follow from the evidence?
	3. Teacher may also develop other lists of evaluative questions for other class activities or processes.
2. Teacher is encouraged to use various critical thinking strategies during class activities. Examples of those activities are provided as follows:
	1. **Plus Minus Interesting (PMI).** When discussing a topic, teachers can ask students to list plus-minus-interesting of a topic (technology, movie, TV program, software, game, book, etc.). Then teacher can ask students how to distinguish between plus and interesting. Also, teacher can ask students to think how the plus may become minus, and *vice versa*.
	2. **Fat and Skinny Questions.** In many class activities, teacher can engage students to develop their critical thinking skills by asking them to provide “fat” (big, deep, controversial, and essential) and “skinny” questions (factual or surface level) related a topic (technology, movie, game, book, etc.).
	3. **Class Debate.** In most subjects and topics, teacher can arrange a class debate. First, teacher provides a statement as the topic for class debate. Second, teacher form three groups; first groups should support the statement, second group should oppose the statement and third group should evaluate other groups’ arguments. Next, teacher can change the group’s role for the same topic.

**Reference**

Bonk, C.J. (2014). *Handout of R546: Instructional Strategies for Thinking Collaboration, and Motivation.* Unpublished.

Paul, R. & Elder, L. (2014). *The Miniature Guide to Critical Thinking Concepts and Tools*. California, CA: Foundation for Critical Thinking.

**Case 2. Creative Problem Solving and Citizen Involvement**

**Background**

I grew up and live in a province which has many beautiful places to visit: beaches, mountain, waterfalls, and cultural heritages; which has a large porphyry copper and gold deposit. Still, my province is far behind other provinces in Indonesia. We have large natural resources and potential customers. Accordingly, many national and some international companies operate in our province. Also, there are many private-for-nonprofit organizations as well as community-based organizations that obviously share same goals with the government. Yet, our government is far from success to incorporate those parties in organizing its development programs. For the betterment of society, the government should see other elements in the society as important resources to be involved.

Therefore, the problem arise here is “how the government could involve other elements in the society to find creative solutions for problems?”

**Related Concepts**

Davis (2004) in his book *Creativity is Forever* discusses the Creative Problem Solving (CPS) model, formulated by Alex Osborn. CPS model has five steps aiming to guide the creative proses of problem solving. Those five steps are discussed as follows.

First, *fact finding* is to list what known about the problem. Second, *problem finding* is to identify the root causes of the problem. Third, *idea finding* is brainstorming stage; offering ideas without criticism or evaluation. Forth, *solution finding* is to evaluate ideas. Fifth, *acceptance finding* is to implement solution that include create an action plan. Next, CPS model is used to offer resolution for aforementioned problem in this case.

**Resolution**

The main idea of the solution for this case is that the government establishes a system for creative problem solving. This system will challenge individuals or groups to solve problems presented by the government based on real problems that exist within the society. Individuals or groups will compete to provide best solutions. The winner will be awarded prizes either monetary or non-monetary. Detailed description is provided as follows.

1. In first step, all provincial government agencies regularly identify problems under their authority. Once a problem identified, an agency should put the detailed information about the problem on a specific website for the Creative Problem Solving (CPS) Competition. There are many problems to solve and individuals and teams are welcome to participate. The participants can be high school or university students, professionals, or citizens. Next, the agency should open the competition and spread the information about this competition to public through a variety of media.

Public are able to find problems on the CPS Competition website. The website should have a space (forum or comment area) in order to allow individuals who are interested to find and form a team. The website also should be integrated with social media to increase the information outreach. Thus, even though public are not interested to solve the problem, they can share the information through their social media accounts.

1. Once individuals or teams have registered themselves to solve a problem, they should receive guidelines based on aforementioned steps in the Creative Problem Solving model. The guidelines should shape the processes of problem solving. When the solution is completely prepared, the process continues to the next step.
2. On specified date, teams should have post their initial solution. In this step, all teams that compete to solve the same problem are able to review other teams’ solutions.
3. After getting reviews for their solution from other teams, every team should revise their creative solution. Next, they should submit revised solution.
4. In this step, a jury team that consists of government reviewer and external reviewer will decide the winners for the problem.
5. Finally, the winner of the Creative Problem Solving Competition will be awarded either monetary or non-monetary prizes. For instance, a competition for solving a problem in education that is participated by students may be awarded with scholarship, fellowship, paid internship, or even job opportunities. In terms of prizes provided for winners, government should involve other institutions such as companies, universities, private-for-nonprofit, etc. that have common goals for the betterment of society.

**Reference**

Davis, G. A. (2004). *Creativity is forever*. Iowa: Kendall/Hunt Publishing Company**Case 3. Teacher Professional Development**

**Background**

In Indonesia, schools altogether with the department of education in every local government have autonomy to manage professional development (PD) programs for teachers. Providing teachers with professional development is an obligatory for every school. There are many PD programs for teachers held every year by schools and local government. Attending those programs is mandatory for teachers. Their topics are mostly related to current trends or issues in education and teaching. A school or has a committee who plan topics to be covered in PD programs and arrange speakers. Usually, the speakers motivate teachers to be excited about teaching. Undoubtedly, their topics are important mainly to advocate teachers to individual, group, or organizational change.

However, most teachers are not enthusiastic about those PD programs. They argue that PD programs like these do not meet teachers’ needs since they have very little impacts, if at all, to the improvement of teachers’ performance in classrooms. Some of PD programs encompass topics in technology integration. Still, many teachers feel hard to follow the advancement of new technology that instructors present in the PD programs. Even though there are some practical knowledge and skills covered, the PD programs tend to provide one-size-fits-all PD programs. Later, most PD programs are supported by incentive system to motivate teachers. The longer the program, the more teachers earn incentives. Still, this intervention does not lead to better results.

The main issue to be countered in this case is “how to manage professional development programs that can motivate teachers to improve their knowledge and skills?”

**Related Concepts**

When the aforementioned problem is view through the perspective of motivation, there are three relevant concepts to be considered: *autonomy*, *mastery*, and *purpose*. Daniel H. Pink, in his book “*Drive,*” argue these three concepts as things that really motivate people.

*Autonomy*—as examined by many recent studies in behavioral science—has a critical effect on people performance and attitude; as well as increases human psychological well-being to greater levels. In this case, teachers almost have nothing to do with topics they learn in professional development.

*Mastery*is a need to get better at performing. People will be more motivated when they think they can improve. Therefore, people always need a challenge that is one level higher than their current level. People will lose their motivation when they face a challenge that is either too hard or too easy. In this case, professional development programs do not consider teachers’ various level of technological knowledge and skills.

*Purpose* is another important thing that drive people to get motivated. People will have more motivation when they have purpose for what they do. According to Pink, the purpose should connect “to a cause larger than yourself that drives the deepest motivation.” In this case, incentive for attending PD programs are unlikely to get teachers more motivated.

**Resolution**

In order to solve the problem, strategies of critical thinking and cooperative learning are used, as follows:

* **Aims, Goals, Objectives (AGO).** Regarding this strategy, identifying the general goals of professional development for teachers is essential to determine further appropriate solution. There three main reasons why schools provide teachers with professional development programs.
	1. To introduce teachers with a new approach and strategy, or to advocate organizational changes.
	2. To improve teachers’ classroom practice.
	3. To develop competencies that teacher need to gain to become more professional.
* **Alternatives, Possibilities, and Choices (APC) and Think-Pair-Share.** Based on the major goals of professional development listed above, the next step is to identify alternatives, possibilities, and choices. School should involve teachers to identify these alternatives, possibilities, and choices using Think-Pair-Share strategy. The final decision will be the solution for new teacher professional development.
1. Schools altogether with teachers identify competencies that teachers should accomplish. They are asked to identify those competencies using Think-Pair-Share strategy. Once identified, teachers are asked to do self-evaluation to identify knowledge and skills they have gained and they plan to accomplish. This self-evaluation should be done annually before new academic year begin.
2. Professional development which aim to introduce teachers with a new teaching approach or strategy, or to promote organizational change, can be arranged in a wide-scale workshop. However, teachers may recommend relevant topics at the beginning of each academic year. Again, they identify topics to learn by using Think-Pair-Share strategy.
3. For improving teachers’ classroom practice, schools offer several choices as follows:
	1. Teacher performance in classrooms is evaluated by students, peers, principal, or superintendent to get valuable feedback in order to improve their classroom practices.
	2. At the end of semester, schools hold a workshop where teachers may present difficulties they have found, interesting things they have experienced, or best practices they have done throughout the semester.
4. Schools give autonomy for teachers to plan, do, and evaluate their individual training. For the implementation, teachers should discuss their individual professional development plan with their principal or with superintendent. In this case, school principals and superintendents give recommendations for teachers’ plans and implementations; and finally provide teachers feedback base on their own evaluation.

**Reference**

Bonk, C.J. (2014). *Handout of R546: Instructional Strategies for Thinking Collaboration, and Motivation.* Unpublished.

Pink, Daniel H. (2011). *Drive: The surprising truth about what motivates us.* Penguin.