

Effective Communication and Collaboration Training Evaluation for Employee Performance Improvement at National Nuclear Energy Agency

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Abstract

One of the efforts done by Training and Education Centre of National Nuclear Energy Agency in improving the human resource competency is through Soft Competency Development Program that is related to the main values of BATAN. This study was aimed at describing the conceptual model of effective communication and collaboration training evaluation to improve the performance of National Nuclear Energy Agency employees. This study applied qualitative and quantitative approaches with educational research and development. The data were collected through observation, interview, and documentation study. They were applied to 25 respondents who were participants, committee, and training manager. The result showed that Effective Communication and Collaboration Training Model used management approach, which were planning, implementation, and evaluation. The things done in the planning phase were identifying the needs, determining the curriculum and training material, time and place, facilitator and training participants. In the implementation phase, four levels to be developed were reaction level, learning level, behavior level, and result level. In the evaluation phase, there were some assessments based on the indicators of Effective Communication and Collaboration to measure the performance improvement.

Keywords: *Training Evaluation, Communication, Collaboration, Performance*

Introduction

Human resource is the main key of successful nation's development. Therefore, developing the nation is a lifelong comprehensive process involving the development of every aspect and dimension of human development in many ways, especially education. Education is expected to equip every aspect of life based on the valid value and applicable norm. This is in accordance with the national education functions and goals as in the Indonesian Law UU No. 20 tahun 2003 about National Education System:

National education serves to develop the capability and shape the nation's character and civilization to be

dignified in order to educate the national. Education goal is to develop the students' potential to be religious, has noble moral, be healthy, knowledgeable, competent, creative, independent, democratic, and responsible.¹

In accordance with the definition, Zainul and Nasution (2001) stated that evaluation is a process in making a decision by using some informations attained from learning outcome measurement, whether it was by test or non-test.^{2,3}

Evaluation should be carried out continuously in line with the process, result, and impacts of the non-formal education by applying systematic measurement standard.

An evaluation can utilize various approaches, method, and techniques in collecting the data to be reported to the program organizer, manager, executor, and other involved parties. It will be an input in taking a decision related to the termination, expansion,

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improvement, and the development of education program (Sudjana, 2012).⁴

Evaluation goal is to measure the training program effectivity. If the evaluation occurred, we can expect that the result will be positive. It will be the base for the leader in making some decisions. Hence, the program needs some reasoning and plans in order to be effective. The significant things in training program evaluation are reasons of evaluation and the presentation of the descriptions, guides, evaluation techniques, and sugetions about the evaluation and program implementation.

Conceptual model of effective communication and collaboration training evaluation is one of the evaluation model developed by researcher in order to improve the performance of BATAN employee.

Literature Review:

A. Concept of Evaluation: Evaluation according to Kumano (2001) is an assessment of the attained data. Zainul and Nasution (2001) stated that evaluation is a process in making a decision by using some informations attained from learning outcome measurement, whether it was by test or non-test. Therefore, evaluation is a systematic process to determine or to make a decision to what extent the teaching objectives have been achieved.^{2, 3, 5, 6}

Meanwhile, Arikunto (2003) said that evaluation is a series of event that is intended to measure the education program success. He defined the evaluation as an assessment process of what extent the teaching objectives have been achieved.^{7, 8}

B. Training Concept: Kllatt, Murdick & Schuster defined training as a systematic way of altering behavior to prepare an employee for a job or to improve the employee’s performance on the present job, and development is preparing an employee for improving the conceptual, decision making, and interpersonal skills in complex, in structured situation. The other opinion about training is from Smith. He said training is a planned process to modify attitude knowledge or skill behavior through learning experience to achieve effective performance in an activity or a range of activities.^{9,10}

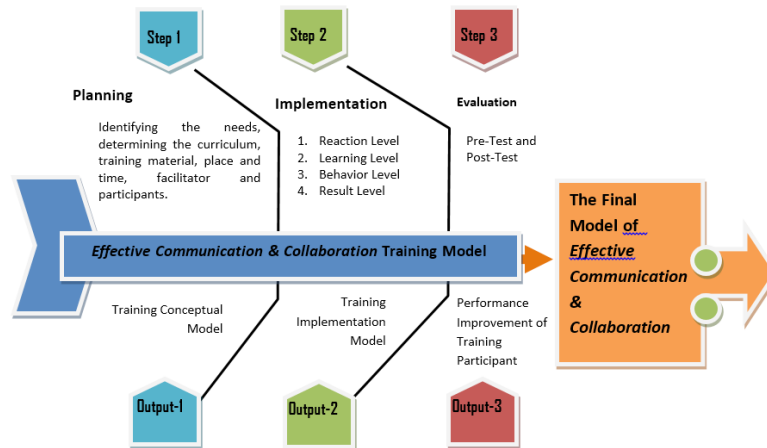
Method

The development training evaluation model was done by applying qualitative descriptive and quantitative approaches with *educational research and development* written by Borg and Gall (1983). The data were collected through observation, interview, questionnaire, and documentation. The research procedures were: 1) preliminary study. 2) Formulating the conceptual model, 3) model validation and revision, 4) limited trial (small scale), 5) Model revision, 6) model testing (field), 7) model completion/validation, 8) establishment of training model final product.¹¹

In the implementation, Borg and Gall research was modified by using eight developments steps in improving the performance of BATAN employee.

Result and Discussion

Conceptual model of effective communication and collaboration training evaluation to improve employee performance of national nuclear energy agency



Source: Researcher’s document (2019)

Graph 1: Conceptual Model Figure (Effective Communication & Collaboration training evaluation)

Conceptual model of effective communication and collaboration training evaluation to improve employee performance of National Nuclear Energy Agency (BATAN) was divided into three steps, which were planning, implementation, and evaluation. In association with the existing theory conception, those three steps referred to management approach as the figure explained below:

For more details, the implementation of those three steps can be explained as follows:

Planning: In the planning phase, things to be prepared were curriculum/material, theme, time (schedule), facilitator, and training participant.¹²

- a. **Curriculum/Training Material:** Training were divided into two parts; main material and self-assessment material. The former consisted of: 1) *Personality Strength and Weakness*, 2) *Human Interpersonal Skill*, 3) *Perception and Communication*, 4) *Developing Productive Communication Skill*, 5) *Effective Team Role and Supportive Team Work*. While, the latter consisted of: 1) Personal motive analysis, 2) work motive analysis, 3) *Personality Profile DISC*, 4) *Belbin Team Roles*.
- b. **Time:** Training was conducted on April 29th 2019 to April 30th 2019 at Pusat Pendidikan dan Pelatihan BATAN (BATAN Training and Education Centre), *Jalan Lebak Bulus Raya, Pasar Jumat, South Jakarta*.
- c. **Facilitator:** Facilitator and *teaching team* of training were chosen from Animous Consulting (PT. Solusi Kinerja Prima).
- d. **Training Participants:** Participants of training were the 25 employees of National Nuclear Energy Agency (BATAN) from various departments.

Implementation: Substantially, this kind of model implementation was divided into four levels. These four levels described a series of ways to evaluate the programs. Each level was important and affected the next level. As the level moved from one to another, every level became more difficult and needed more time, but that also gave some valuable information. Those four levels are:

Level 1: Reaction

Level 2: Learning

Level 3: Behavior

Level 4: Results

Reaction: In this phase, the reaction was in form of participation of BATAN employees to join the training program. There were about 25 participant taken part in this training from various departments in BATAN.

Learning: Learning was defined as educational interaction between the training participants and instructors or trainers where the participants experienced the learning process to improve their knowledge and skill as the outcome of the program.⁴

In this stage, the materials given were main material and self-assessment material. The former consisted of: 1) *Personality Strength and Weakness*: the participants were asked to analyse about their motive profile related to Personal Motive Analysis and Work Motive Analysis. Thus, they would understand their strengths and weakness to make an improvement and balance. 2) *Human Interpersonal Skill*: the participants were expected to understand about personality types of human to be able to comprehend how to give an information effectively to the listeners or interlocutors with various types of personality. 3) *Perception and Communication*: the participants were trained to understand someone's perception and deliver the information empathically to others. 4) *Developing Productive Communication*: the participants were expected to be able to improve their skill in delivering information well, understand the cause of communication failure, and overcome the different perception without causing any conflict. 5) *Effective Team Role and Supportive Team Work*: the participants were given some comprehension about the importance of understanding the personal and others' role in the company in order to improve the effective and condusive collaboration/cooperation. In the other side, self-assessment materials consisted of: 1) *Personal Motive Analysis*, 2) *Work Motive Analysis*, 3) *Personality Profile DISC*, and 4) *Belbin Team Roles*.

In this learning stage, Andragogy was developed because the participants were all adults. Knowless⁴ explained that Andragogy was a method used for the adult learners based on their learning assumptions, experiences, learning readiness, and learning orientation. Besides, most of method used in this study were the method based on education for adult learners as follows: *lecture, learning insight, group discussion, self test, personality profile, group profiling; and role-playing*.

Moreover, adult education (andragogy) had an important role, especially in adult learning programs

required to recognize change. Learning citizens were required to learn to recognize the changes and developments and at the same time to be able to open the opportunity to create a conception of learning based on “learning how to learn, learning how to think, learning to be, and learn revolution”.¹³

This is because the adult education principles are referenced in training standards but depart from original theoretical frameworks.^{14,15}

Behavior: This program had three requirements. The first was to form the positive behavior towards the expected changes. The second was to teach the needed knowledge and skill. The third condition, the suitable scene, was related to the direct supervision to the participants. Five kinds of difference scenes were described as follows:

- a. **Prevention:** The leader forbade the participants from doing what they considered to do related to the training program.
- b. **Frightening:** The leader did not say, “you cannot do it,” but he made it clear that the participants should not change their behavior for it made the leader disappointed or the leader did not form the behavior as how it should be in the program.
- c. **Neutral:** The leader ignored the fact that the participants participated in a training program.
- d. **Supporting:** The leader supported the participants to learn and apply the learning on their work.
- e. **Demanding:** The leader knew what the employees learned and ensured its application to their job. In many ways, learning contract had been prepared which the employee stated their agreement. This contract could be prepared in the last meeting of training and the copy was given to the leader. Leader observed that the contract had been done.¹⁶

The fourth condition was the appreciation. That could be intrinsic, extrinsic, or both. Intrinsic appreciation consisted of feeling satisfied and proud about the accomplishments occurred. Extrinsic appreciation was the compliment from the leader, recognition from others, and some additional bonus.

This was important for the trainer to understand these kinds of scene faced by the participant after the training. This was also significant for them to do something to know that the scene was neutral or better.

Conversely, there were few opportunities or there was absolutely no chance that the program would be able to complete the behavior and achieve the goal, because the participants did not try to use what they have learned. When the changes did not happen, both the participants and the leader would be disappointed.

Results

The result of the preliminary study was defined as the final result because the participants participated in the program. The final result can include work productivity and work improvement, quality improvement, and costs reduction. In this training, the results to be achieved were effective communication and collaboration within the company. The communication and collaboration should be able to become a culture in the workplace. The specific results to be achieved from this training were as follows:

- a. Understanding the strengths and the weaknesses through personal profile mapping related to the social motive to adapt with the work demands.
- b. More understanding these aspects: perception and the nature of paradigm in interacting with other people
- c. Improving communication skills in their roles and functions within the Department and between Departments in the company to facilitate the implementation of tasks.
- d. Improve the persuasion skills (to influence and to persuade) towards the others.
- e. Improving the sensitivity in understanding the others' *inner state* as partner in developing the effective communication and collaboration.
- f. Improving the understanding and competency in *Human Interpersonal Skills* through mastering effective communication and cooperation.
- g. Understanding the role as part of organization and actualizing the role in the effective cooperation in order to build up positive and conducive collaboration.

Evaluation: Assessment phase in a training program had a strategic position in measuring the objective achievement and it was measured with tools or instruments. Based on the evaluation results, the evaluation developed in this phase was the evaluation highlighted in *effective communication & collaboration*.^{17,18} They

were: 1) personality strength and weakness, 2) human interpersonal skill, 3) perception and communication, 4) developing productive communication skill, 5) effective team role and supportive team work. 6) personal motive analysis, 7) work motive analysis, 8) personality profil DISC, 9) belbin team roles. Nine indicators develop in the assessment phases was elaborated into pre-test and post-test evaluation.

Based on the pre-test and post-test, the researcher obtained the data as follows: the lowest score in pre-test and post-test were 10 points and 80 points. It meant there were 70 points increase. Whilst, the highest score in pre-test and post-test were 80 points and 100 points. It showed 20 points increase. Calculating the results, the average increase in the ability of students was 27.2 points; the average of the pre-test results was 57.6; and the post-test average was 84.4 points. For more details, pre-test and post-test results can be seen in the following table:

Table 4: Pre-Test and Post-Test Results Training Effective Communication & Collaboration

PRE-TEST RESULT	POST-TEST RESULTS	INCREASE
50	90	40
50	80	30
50	80	30
70	90	20
40	80	40
70	80	10
80	80	0
60	90	30
60	80	20
70	100	30
40	90	50
50	80	30
60	90	30
60	70	10
30	80	50
40	100	60
80	80	0
70	90	20
50	80	30
60	100	40
10	80	70
80	80	0
70	90	20
60	80	20
80	80	0
1440	2120	680
10	80	0
80	100	70
57,6	84,4	
	27,2	

Source: Researcher's document (2019).

Conclusion

Development of evaluation in this model was divided in three stages, which were planning, implementation,

and evaluation. At the planning stage, there were need identification, determination of training materials, time and place of implementation, determination of resources (facilitator and training participants). At the implementation stage, there were four levels developed, namely the reaction level, learning level, behavior level, and result level. Finally, in the evaluation stage, there were assessments based on effective communication & collaboration indicators that were packaged into pre-test and post-test and showed effective results in improving the performance of training participants.

Acknowledgement: The researcher expresses her gratitude to National Nuclear Energy Agency Jakarta for the opportunity to conduct preliminary research activities on skills learning programs for training participants. Furthermore, the researcher also expresses her gratitude to Prof. Dr. H. Achmad Hufad, M.Ed., Dr. Jajat S. Ardiwinata, M.Pd., and Dr. Iip Saripah, M.Pd for the guidance in finishing this research.

Conflict of Interest: Nil

Source of Funding: Self Source

Ethical Clearance: Done Research Committee

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