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Evaluation of the Bakrie Center Foundation (BCF) SDGs Hero Volunteer Training Program Using the Kirkpatrick Model

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Abstract

This study aims to evaluate the effectiveness of the Bakrie Center Foundation (BCF) SDGs Hero Volunteer Training Program using the Kirkpatrick Evaluation Model at Level 1 (Reaction), Level 2 (Learning), and Level 3 (Behavior). This study uses a quantitative descriptive approach involving 50 respondents. Data collection was carried out through reaction questionnaires, pre-tests and post-tests, as well as behavioral questionnaires. The results of the Level 1 evaluation showed that participants were satisfied with the implementation of the program in terms of technical, material, organizing team, and resource persons. The Level 2 evaluation showed a significant increase in participant knowledge, characterized by an increase in the average score from 87.00 to 97.80 ($p < 0.05$). The Level 3 evaluation showed that the majority of participants consistently implemented eco-friendly lifestyle practices, particularly in waste management, energy and water efficiency, sustainable transportation use, and participation in environmental maintenance. These findings suggest that training programs are effective in increasing knowledge and driving sustainable behavior change.

Keywords: Training evaluation, Kirkpatrick model, Eco-friendly lifestyle, Behavior change

INTRODUCTION

The world is currently facing a concerning challenge in addressing a global phenomenon called the Triple Planetary Crisis, one of which is climate change. This global climate change phenomenon undoubtedly has significant impacts that can disrupt human health and survival in various aspects of life. Climate change, characterized by rising global average temperatures, increasingly extreme rainfall patterns, and rising sea levels, is one of the health risks that threaten the survival of living things, including humans.

Climate change is one of three major crises facing the world's population. Climate change is influenced by various environmental issues. These include the accumulation of plastic waste, especially that dumped into the ocean, which produces methane gas, which triggers climate change; increasing air pollution; and carbon emissions, which release the greenhouse gas carbon dioxide (CO₂), the primary trigger for climate change.

Efforts to address the various environmental issues faced by both the global and Indonesian communities are being made through the implementation of environmentally friendly lifestyle practices, or sustainable living. Sustainable living practices offer a solution to address environmental issues through positive human practices in everyday life. According to



the UN Environment Program (2016), sustainable living, or environmentally friendly lifestyle practices, are habits and behavioral patterns within a society.

Environmentally friendly lifestyle practices can not only be carried out by individuals as implementers, but every component of society, both organizations and social institutions, can contribute to efforts to support the acceleration of achieving SDGs with training program initiatives that support environmentally friendly lifestyle practices, none other than the social institution, namely the Bakrie Center Foundation (BCF).

The Bakrie Center Foundation (BCF) initiated the SDGs Hero Volunteer Training Program as a youth empowerment intervention based on volunteerism and environmental education through eco-friendly lifestyle practices. This program aims to increase participants' understanding of sustainability issues and foster the application of eco-friendly values and practices in daily activities. However, to date, there has been no systematic evaluation to assess the program's effectiveness in achieving targeted outcomes, particularly regarding changes in participant behavior.

This condition emphasizes that results of the SDGs Hero Volunteer training program has not been proven to have a real impact on the behavior of training program participants, which participants not yet actively contributing to implement the practice of environmentally friendly lifestyle as a movement to reduce climate change. In order for program managers to assess the extent to which the program has achieved its stated objectives, in this case increasing knowledge and encouraging behavioral change, therefore giving rise to the need for a systematic program evaluation process, to assess how the program has achieved its intended objectives.

One training program evaluation model used to measure training program outcomes is Kirkpatrick's Four Level Evaluation Model. Kirkpatrick stated that training program evaluation is conducted based on three main reasons: 1) to improve the program, 2) to maximize learning transfer within the program, and 3) to ensure the program's value to the organization and community.

Based on the identified problems, this study aims to assess the effectiveness of the Bakrie Center Foundation (BCF) Hero Volunteer SDGs Training Program using the Kirkpatrick Evaluation Model, which focuses on participants' reactions, learning, and behavioral changes. The findings of this study are expected to provide relevant empirical evidence for the development of environmentally-based training programs and strengthen program evaluation practices in encouraging the adoption of sustainable, environmentally friendly behaviors among youth.

FORMULATION OF THE PROBLEM

How did the SDGs Hero Volunteer Training Program achieve positive participant reactions, increase participant knowledge, and encourage behavioral changes in practicing an environmentally friendly lifestyle in everyday life?



THEORITICAL REVIEW

Training is a program whose implementation requires a thorough design process and the involvement of many parties. According to Rivai and Simamora, training is defined as a structured process for changing participant behavior to improve the achievement of organizational goals. Goldstein also defines training as a planned effort to deepen skills, rules, concepts, and behaviors that impact the development of an individual's performance.

A training program is a program organized in an effort to maximize employee work capacity through efforts to improve knowledge, skills, and attitudes, this is very important for carrying out existing responsibilities. Dale S. Beach in Kamil describes the purpose of training, which is "The objective of training is to achieve a change in the behavior of those trained." The meaning expressed is that the purpose of training is to create behavioral changes in participants who take part.

To determine whether the desired goals have been achieved, a training program requires an evaluation process. The English word "evaluation" comes from the term "evaluation," meaning "value or amount." Tyler, known as the father of evaluation, defined evaluation as a process for assessing the extent to which a program has successfully achieved its desired goals. In the educational context, Sudijono defines evaluation as the process of assigning values to determine the quality and extent of achievement.

More specifically, according to Wholey, program evaluation is the process of identifying the right questions, sorting the necessary data, analyzing that data, and developing a plan for utilizing the collected data. Essentially, training program evaluation is a systematic and planned process aimed at assessing the extent to which program objectives have been achieved. In carrying out the training program evaluation process, it is necessary to implement an evaluation model as a measurement tool.

The evaluation model used to evaluate training programs is the Kirkpatrick evaluation model. Donald Kirkpatrick (in Syafril Ramdhon, 2016) stated that the main reason for conducting evaluation activities is to confirm the level of effectiveness of the training program. The Kirkpatrick evaluation model is a classic evaluation structure used to measure the effectiveness of training in an organizational context. The Kirkpatrick evaluation model has operational advantages because this model can be used in programs that focus on skills development efforts, and this model can also be used to obtain the entire content of the development program.

Kirkpatrick's evaluation model consists of four levels of measurement: Level 1 - reaction, Level 2 - learning, Level 3 - behavior, and Level 4 - result. In principle, this model is designed to assess the effectiveness of a training program gradually through these four levels. However, in its application, this model is flexible according to the objectives and scope of the research.



RESEARCH METHODS

This research is an evaluative study using the Kirkpatrick evaluation model. This study focuses on measuring three levels of Kirkpatrick evaluation: Level 1 (Reaction Level), Level 2 (Learning Level), and Level 3 (Behavior). Objectively, this research is an evaluative study, using the Kirkpatrick evaluation model to assess the extent to which the program has achieved its objectives through a quantitative descriptive research approach.

The quantitative method in this study was used to measure the level of participant reactions to the program's operations through questionnaires, then measure the increase in participant knowledge at level 2 through pre-tests and post-tests and the level of participant behavior change at level 3 through behavioral questionnaires. The research approach and method in this study are expected to produce accurate and truthful data as well as informative through a systematic data collection process based on 50 research subjects. The research subjects were participants in the SDGs Hero Volunteer training program.

This study uses a quantitative descriptive approach with data collection techniques adapted to the Kirkpatrick Evaluation Model. In Level 1 evaluation, data were collected through a reaction questionnaire to measure the level of participant satisfaction with the program implementation with a five-level Likert scale, Level 2 evaluation through a pre-test and post-test to assess changes in participant knowledge before and after participating in the training, and Level 3 evaluation through a behavioral questionnaire (self-report) with four levels to identify the application of environmentally friendly lifestyle practices in everyday life.

The data obtained in the Level 1 evaluation will through descriptive statistical analysis with a questionnaire formulated to determine the level of reaction or satisfaction of training program participants regarding the implementation of the program. Data analysis conducted in the Level 1 evaluation analysis utilized Microsoft Excel to see the distribution of scores and average values for each assessment indicator in each dimension of the level of participant reaction to the training program. The data obtained will be interpreted descriptively based on the reaction questionnaire compiled on the following Likert scale.

Table1. Likert Scale Evaluation Level 1

Score	Value Criteria
5	Very good
4	Good
3	Neutral
2	Not good
1	Very Bad

Based on the Likert scale, each dimension will be known the average score and the conclusions obtained, when the average score is obtained > 4.00 , therefore the dimension is said to be "Satisfactory". Meanwhile, the data in the Level 2 evaluation, will go through descriptive statistical tests on the pre-test and post-test results data in seeing the level of knowledge of participants on the material provided. Descriptive statistical tests will be carried



out using the SPSS statistics 16.0 for windows application to see the distribution of score values, mean, median, and distribution of pre-test and post-test data. Not only that, the Level 2 evaluation will also go through inferential statistical analysis through the Non-Parametric Wilcoxon Signed-Rank Test hypothesis test.

The non-parametric Wilcoxon Signed-Rank Test was used to identify significant differences between pre-test and post-test scores indicating an increase in participants' knowledge in the training program. If the results indicate an increase in knowledge, this finding is concrete evidence that the training program has had an impact on increasing participants' knowledge and simultaneously fostering a basic understanding of the material presented in the training program.

Decision making in hypothesis testing using the Wilcoxon Signed-Rank Test is based on the significance value (Sig. 2-tailed), where the Sig. value < 0.05 indicates that the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted, which means there is a significant difference between the pre-test and post-test scores, while the Sig. value > 0.05 indicates that H_0 is accepted and H_1 is rejected, which indicates there is no significant difference between the pre-test and post-test scores.

In the Level 3 evaluation, data analysis was conducted descriptively using frequency tables with the help of SPSS Statistics 16.0 software. The frequency of participant responses produced statistical data in percentages indicating findings of changes in the behavior of training program participants as shown in the response tendencies in each statement on the dimensions that reflect changes in participant behavior with the implementation of environmentally friendly lifestyle practices in daily life. The tendency of participant responses was measured using the following four-level Likert scale.

Table2. Likert Scale Evaluation Level 3

Score	Value Criteria	Percentage Value
4	Always	75% - 100%
3	Often	50% - 75%
2	Sometimes	25% - 50%
1	Never	0% - 25%

The results of this analysis on the data obtained through four-level Likert scale measurements are the basis for evaluating changes in participant behavior (Level 3), where the dominance of responses in the "Often" and "Always" categories will be categorized with percentage statistical data that shows a high tendency for changes in the behavior of training program participants consistently towards a more sustainable direction, this leads to the conclusion that training program participants have consistently implemented environmentally friendly lifestyle practices in their daily lives.



RESULTS AND DISCUSSION

Level 1 Evaluation Analysis (Reaction Level)

The Level 1 evaluation analysis (Reaction Level) was conducted through four dimensions: the technical dimension, the organizing team dimension, the material dimension, and the resource person dimension. The data obtained from the Level 1 evaluation (Reaction Level) are as follows.

Table3. Level 1 Evaluation Data Table (Reaction Level)

No	Evaluation Dimensions	Average value	Category
1	Technical Dimensions	4.25	Satisfying
2	Dimension of Matter	4.42	Satisfying
3	Dimensions of the Organizing Team	4.16	Satisfying
4	Source Dimension	4.34	Satisfying

Based on the data in the Level 1 evaluation conclusion table (Reaction Level), it was found that all dimensions showed an average value in the satisfactory category. The material dimension obtained the highest average value of 4.42, followed by the resource person dimension with a value of 4.34, and the technical dimension with 4.25, which indicates that the training material was considered relevant and easy to understand, the resource person had good competence, and the technical aspects of the implementation supported the smooth running of the activity. Meanwhile, the organizing team dimension obtained an average value of 4.16, which was the lowest value compared to the other dimensions, but still in the satisfactory category.

Based on these findings, it can be concluded that participants generally responded positively to the implementation of the Bakrie Center Foundation (BCF) SDGs Hero Volunteer Training Program. The relatively high average scores across all dimensions indicate that the program was implemented with good quality and met participants' expectations, particularly in terms of material and resource persons. The Level 1 evaluation results confirm that the program was implemented effectively, providing a strong foundation for achieving increased knowledge and behavioral changes in participants in subsequent evaluation stages.

Level 2 Evaluation Analysis (Learning Level)

Level 2 (Learning Level) evaluation analysis begins with descriptive statistical analysis to determine the comparison of scores *pre-test* and *post-test* on training program participants. The following is the resulting score data.



Table4. Descriptive Statistics

	N	Mean	Standard Deviation	Minimum	Maximum
<i>Pretest</i>	50	87.00	11,112	60	100
<i>Posttest</i>	50	97.80	4,647	80	100

The data generated in the Descriptive Statistics Table reaffirms the significant difference between the pre-test and post-test results. The increase in the average score from 87.00 to 97.80 indicates a shift in participants' level of knowledge regarding the material presented in the series of learning activities in the training program. The decrease in the standard deviation value from 11.112 to 4.647 also indicates that the participants' post-training achievements have become more uniform, indicating a consistency of knowledge among participants.

Meanwhile, to strengthen the data findings at Level 2 (Learning Level), an evaluation analysis was conducted using a hypothesis test, namely the Wilcoxon Signed-Rank Test. The aim is to compare two paired data sets to determine whether the resulting differences descriptively have a statistically significant level. The following is the data obtained through the Wilcoxon Signed-Rank Test:

Table5. Wilcoxon Signed-Test Statistics

	<i>Posttest - Pretest</i>
Z	-5.040a
Asymp. Sig. (2-tailed)	.000

Based on the results of the Wilcoxon Signed-Rank Test above, a significance value (Asymp. Sig. 2-tailed) of 0.000 (<0.05) was obtained, indicating a statistically significant difference between the pre-test and post-test scores. Thus, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted, indicating an increase in participants' knowledge after participating in the training program. A total of 32 participants experienced an increase in scores and no decrease in scores was found in the other participants. This finding confirms that the Bakrie Center Foundation (BCF) Hero Volunteer SDGs Training Program is effective in achieving learning objectives and has met the Level 2 evaluation criteria (Learning Level) in the Kirkpatrick Model, especially in the aspect of increasing knowledge related to environmentally friendly lifestyle practices.



Based on descriptive analysis and the Wilcoxon Signed-Rank Test hypothesis test, Level 2 (Learning Level) evaluation showed a significant increase in participants' knowledge after participating in the SDGs Hero Volunteer Training Program. The average score increased from 87.00 (pre-test) to 97.80 (post-test), accompanied by a decrease in the standard deviation from 11.12 to 4.647, indicating that participants' learning outcomes became more evenly distributed. This finding was supported by the Wilcoxon test results with a significance value of $p < 0.05$, which confirmed a significant difference between the scores before and after the training. Thus, statistically and empirically, the training program was proven effective in improving participants' cognitive aspects and has met Level 2 achievements in the Kirkpatrick Evaluation Model, while also answering the problem formulation related to participants' knowledge levels.

Level 3 Evaluation Analysis (Behavior)

Level 3 (Behavior) evaluation analysis is assessed based on four measurement dimensions that are in line with indicators of environmentally friendly lifestyle practices, for which the data obtained are as follows:

Table 6 Level 3 Evaluation Data (Behavior)

Behavioral Dimensions	Key Indicators	Dominant Percentage (“Often”– “Always”)	Trend
Waste	Do not litter, sort waste, reduce plastic, management	86%–94%	Tall
participate in waste banks			
Energy and Water	Water saving, use of energy saving lamps, Efficiency utilization of natural light	89%–92%	Tall
Utilization of Transportation	Use of public transportation, car sharing, walking	77%–87%	Tall
Environmental Maintenance	Environmental cleaning activities, dissemination of information, consumption of environmentally friendly products	80%–92%	Tall

Based on the analysis of the Kirkpatrick model Level 3 (Behavior) evaluation conducted through descriptive statistical analysis of behavioral questionnaire data with the response frequency level analysis above, it can be concluded that in general, participants in the SDGs Hero Volunteer training program have shown changes in their behavior by implementing environmentally friendly lifestyle practices in their daily lives with a high tendency. As many as 86%-94% of participants have consistently implemented environmentally friendly practices



through wise waste management. Then, as many as 89%-92% of participants have shown good utilization of energy and water, as many as 77%-87% of participants have utilized public transportation, and 80%-92% have consistently carried out environmental maintenance practices.

Overall, the findings confirm that the SDGs Hero Volunteer training program has been effective in encouraging significant, consistent, and sustainable behavioral changes, reflected in waste management, efficient energy and water use, sustainable transportation, and active participation in environmental protection. The majority of participants have demonstrated positive behavioral tendencies, with dominant responses in the "Always" and "Often" categories, reflecting the transfer of learning, namely the transfer of knowledge by encouraging real behavioral changes in everyday life.

Judging from initial observations of participants in the training program, behavioral changes are seen from daily practices in waste management which are stated to have been carried out wisely, energy and water utilization has been carried out efficiently, the use of transportation as an effort to reduce carbon emissions and air pollution has been carried out consistently, as well as participation in environmental maintenance which is expressed in contributions to environmental awareness-based activities. Success at Level 3 (Behavior) underscores the effectiveness of training interventions in forming environmentally friendly behavior that is not only temporary, but also has the potential to be sustainable or long-term continuously carried out by program participants.

Overall, the results of the evaluation analysis at Level 1 (Reaction), Level 2 (Learning Level), and Level 3 (Behavior) have answered the research problem formulation related to participant reactions, increased knowledge, and behavioral changes after participating in the training program. These findings indicate that the SDGs Hero Volunteer Training Program is effective in achieving the objectives set based on the application of the Kirkpatrick Evaluation Model. In line with Donald Kirkpatrick quoted by Syafril Ramdhon, that training program evaluation functions to assess the level of effectiveness of a program. Therefore, the results of this study provide an empirical basis that training programs based on environmental values and actions, such as the SDGs Hero Volunteer Bakrie Center Foundation (BCF), have strong potential in encouraging behavioral changes and sustainable social contributions, especially in supporting efforts to address environmental issues through environmentally friendly lifestyle practices.

CONCLUSION

Based on the analysis and discussion, the Level 1 evaluation findings (Reaction Level) indicate that participants responded positively to the SDGs Hero Volunteer Training Program. All evaluation dimensions, including technical aspects, materials, the organizing team, and resource persons, received satisfactory ratings. These findings indicate that the program was well-organized and met participants' expectations in terms of implementation.



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In the Level 2 evaluation (Learning Level), findings indicated an increase in participants' knowledge after participating in the training program. This was demonstrated by an increase in the average score from 87.00 in the pre-test to 97.80 in the post-test. This increase was confirmed by the results of the Wilcoxon Signed-Rank Test with a significance value of <0.05 , confirming a significant difference between participants' knowledge levels before and after the training. Thus, the training program proved effective in achieving learning objectives in the cognitive aspect.

Level 3 (Behavioral Level) evaluation showed that the majority of participants had consistently implemented environmentally friendly lifestyle practices in their daily lives. Positive behavioral tendencies were evident across various dimensions, including waste management, energy and water efficiency, the use of environmentally friendly transportation, and environmental preservation. The high percentage of responses in the "Often" and "Always" categories and the statistical data obtained indicated that the training not only increased knowledge but also encouraged sustainable behavioral changes among program participants.

Overall, the evaluation results of Level 1, Level 2, and Level 3 in the Kirkpatrick Model indicate that the Bakrie Center Foundation (BCF) Hero Volunteer SDGs Training Program has achieved its stated objectives. The program not only provided satisfaction and increased knowledge but also successfully encouraged behavioral changes in participants in implementing environmentally friendly lifestyle practices in their daily lives. These findings confirm that the volunteer-based training approach and environmental education are effective in shaping sustainable behavior among youth.

REFERENCE

- Ambiyar, and Muharika D. "Program Evaluation Research Methods." Alfabeta, 2019.
- Ananda, Rusydi, and Tien Rafida. Introduction to Educational Program Evaluation. Medan: PERDANA PUBLISHING, 2017.
- Hasan, Fuad, and Niswatul Imsiyah. Basic Concepts of Training, 2018.
- KIRKPATRICK, DONALD L., and JAMES D. KIRKPATRICK. Evaluating Training Program The Four Levels (Third Edition). San Francisco: Berret-Kohler Publisher, Inc., 2006.
- Kirkpatrick, James Don, and Wendy Kayser. Kirkpatrick's Four Levels of Training Evaluation. KirkPatrick Partners. ATD Press, 2016.
- Machali, Imam. Quantitative Research Methods (Practical Guide to Planning, Implementing, and Analyzing Quantitative Research). Yogyakarta: Faculty of Islamic Education and Teacher Training, Sunan Kalijaga State Islamic University (UIN) Yogyakarta, 2021.
- Ramdhon, Syafril. "APPLICATION OF KIRKPATRICK'S FOUR-LEVEL MODEL IN THE EVALUATION OF EDUCATION AND TRAINING PROGRAMS FOR CIVIL SERVANTS." Swara Patra 06, no. 1 (2016).
- Sugiyono. Quantitative, Qualitative, and R&D Research Methods. Bandung: Alfabeta, 2013.



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United Nations Environment Programme. (2016). *Fostering and Communicating Sustainable Lifestyles: Principles and Emerging Practices*.

Wholey, SJ *Handbook of Practical Program Evaluation Third Edition*. JOSSEY-BASS. (2010).

Widoyoko, Eko Putro. *Training Program Evaluation*. 1st ed. Yogyakarta: Pustaka Pelajar, 2017.