

# Impact-Based Training Evaluation Model (IBTEM) For School Supervisors in Indonesia

Sutarto<sup>1</sup>, Husaini Usman<sup>1</sup> & Amat Jaedun<sup>1</sup>

<sup>1</sup> Yogyakarta State University, Indonesia

Correspondence: Husaini Usman, Jurusan Teknik Sipil, Fakultas Teknik, Universitas Negeri Yogyakarta, Indonesia. E-mail: husainiusman@gmail.com

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## Abstract

This article represents a study aiming at developing: (1) an IBTEM which is capable to promote partnership between training providers and their client institutions, easy to understand, effective, efficient; and (2) an IBTEM implementation guide which is comprehensive, coherent, easy to understand, effective, and efficient. The method used in the study was Research and Development (R & D) suggested by D. Gall, P. Gall, and Borg (2007) that was simplified into three phases: pre-development, development, and validation phases. The pre-development phase was used to review related theories, interview resource persons, and collect relevant documents. The result of this phase was an IBTEM draft. The development phase was used to organize a focus group discussion (FGD) attended by participants from the Yogyakarta Education Quality Assurance Institute, Regional Offices of Education, school supervisors, principals, and teachers. The result of this phase was a revised IBTEM draft. The validation phase consisted of internal and external validations. The internal validation was done through a Delphi technique. The team in the Delphi involved experts in educational evaluation, educational management, and vocational education. The result of the internal validation phase was a theoretical IBTEM that was then validated externally. The external validation was conducted by carrying out limited field testing of the theoretical IBTEM involving three institutions: the Center for Development and Empowerment for Arts Teachers, Center for Development and Empowerment for Mathematics Teachers, and the Yogyakarta Education Quality Assurance Institute. The external validation phase resulted in a final IBTEM. The study results confirm that: (1) the developed IBTEM is capable to promote partnership between training providers and their client institutions, easy to understand, effective, and efficient; and (2) the developed IBTEM implementation guide which is comprehensive, coherent, easy to understand, effective, and efficient.

**Keywords:** model, evaluation, training, results, impacts, school, supervisor

## 1. Introduction

Becker (1993) states that education and training can raise the level of one's earning and productivity that eventually improves her/his income over the cost of the training s/he might have spent. Noe (2010) is in line with Becker in that educational institutions nowadays have developed training models to innovatively improve the participants' financial performance than those who have not participated in the trainings. However, both statements will come true provided that the trainings are properly designed as to meet the expected outcomes. In this perspective, impact-based training evaluation model (IBTEM) offers some promising innovations in promoting the training participants capacity to improve their level of contribution of institutional productivity.

IBTEM is an evaluation model designed to measure the effectiveness of training in improving performance of the client's institution. IBTEM is very keen on achieving the expected impact on client's institution (rate of expectation-ROE). In IBTEM frame, evaluation is to be done in class by the training provider and at the workplace by the client's institution under collaboration with or guidance from the training provider.

The framework of IBTEM refers to the four levels of evaluation (Kirkpatrick, 1996). The first level (EL1) is REACTION, the second evaluation (EL2) is LEARNING, the third level (EL3) is BEHAVIOR, and the fourth (EL4) is RESULTS/IMPACTS. Reaction and learning evaluations are administered in class, while behavior and results are administered at the work place. Figure 1 below illustrates how the four levels of evaluation work.

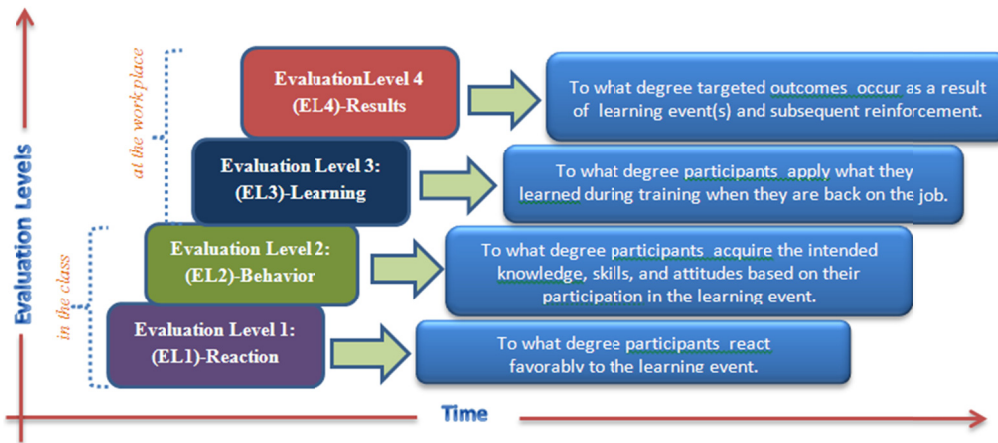


Figure 1. Kirkpatrick's four levels evaluation (1996)

IBTEM works through the four levels of evaluation that cover both internal and external evaluation. The internal evaluation includes EL1 and EL2, while the external includes EL3 and EL4. IBTEM design makes it possible to trace the alumni if they can apply their skills at the workplace and produce the expected outcomes as the results of training. This training model is believed to be able to improve employee skills, create new ideas, products, and promote excellent service to customers. The company needs to conduct effective trainings and staff career management continually for their prospective career development. The company also needs to motivate the employee and care for their needs so as to make them comfortable at the workplace (Noe, 2010). Therefore, this kind of training policy is not in a state of “should do” but, rather, “must do” for the company to survive and to be more competitive.

D. Robinson and J. Robinson (1989) claim that most training providers are generally concerned with the training management in the classroom so that they administer EL1 and EL2 only. This type of training is referred to as Training for Activity (TFA) in which case the training providers would never know if the participants have attained the intended skills and competence required for productivity impacts. Therefore, they not only need internal evaluation (EL1 and EL2) but also external evaluation (EL3 and EL4) to measure the effectiveness of the training and impacts at the workplace. The latter is known as Training for Results or Impacts (TFI).

In Indonesia, it refers to the Government Regulation no 79/2005 on development guidance and supervision of local government administration article 1, and item d points out that the central government is obliged to support local government in developing training program as a part of human resource development. For this purpose, all government institutions in Indonesia should include training program in annual plan. However, quality assurance and the effectiveness of the training program should remain a major issue.

Some research findings show that training providers in Indonesia generally conduct evaluation on EL1 and EL2 only. Since they do not include EL3 and EL4, it is never clear if the expected training impacts have been achieved or not. The reasons for not doing EL3 and EL4 among others are: (1) low commitment of the training manager to the importance of the training; (2) limited resource persons in the field of training evaluation; (3) no budget sufficiently allocated for EL3 and EL4; (4) training managers do not care about the effectiveness and efficiency of the training (Tupamahu & Tjiptono, 2009; Steffenny & Praptiningsih, 2013).

In response to those problems, we urge to develop and implement IBTEM to improve the quality of planning and implementation of training in Indonesia. This would include these facts: (1) the training content delivered in the classroom should be applicable at the workplace; (2) motivate the training participants and their institutions for IBTEM treats them as the subjects not object of training; (3) the participation of stakeholders in the training implementation should be intensified; (5) facilitate staff development to improve their skills in the area of training design and analysis of EL3 and EL4; (6) minimize or if possible eliminate overspending national budget and encounter the accusation that such training is a waste of fund; and (7) develop clean and professional government officials who are customer-oriented, capable of providing excellent services and promoting culture of sustainable quality improvement.

Specifically, the purpose of this research and development is to generate: (1) an IBTEM which is capable to promote partnership between training providers and their client institutions, easy to understand, effective,

efficient; and (2) an IBTEM implementation guide which is comprehensive, coherent, easy to understand, effective, and efficient.

## 2. Review of Related Literature

Eseryel (2002) describe that tools and methodologies used in evaluation should help determine the effectiveness of instructional interventions, including the effectiveness of training program. However, in reality most training providers do not conduct the evaluation, especially on ET3 and ET4. Furthermore, McEvoy and Buller (1990) put forward possible explanations for inadequate evaluations that include: insufficient budget allocated; insufficient time allocated; lack of expertise; blind trust in training solutions; or lack of methods and tools. Also, partly the reason for training providers not to conduct ET3 and ET4 is the complexity of evaluation task. The scope of training evaluation is also wide, it may concern on learning transfer and organizational impact (as cited in Eseryel, 2002, p. 93). This literature review will describe four conceptual references: (1) training evaluation approach; (2) effective training; (3) training effectiveness; and (4) Kirkpatrick Business Partnership Model.

### 2.1 Training Evaluation Approach

According to Eseryel (2002), there are six categories of training evaluation approaches: (1) Goal-based evaluation, it is an evaluation approach that focuses primarily on the goal achievement; (2) Goal-free evaluation, it is an evaluation approach that does not only confirm to the achievement of training goal formulated, but also to know the added values (benefits) resulted from the training; (3) Responsive evaluation, it is an evaluation approach that focuses on aspects requested by a training partnership institution; (4) System evaluation, it is an evaluation approach that focuses on whether training or other intervention implemented is effective and efficient; (5) Professional review evaluation, it is an evaluation approach that is done by external evaluation experts; and (6) Quasi-legal approach, it is rarely done, and it is done based on legal basis (*actual court-of-inquiry format*) to present evidence, testimony, and evaluate the training implementation and its product.

Among the six approaches, the goal-based and system-based approaches are mostly used for training evaluation. The goal-based approach is used with reference to Kirkpatrick's four level evaluation, and the system-based approach is used with reference to Context, Input, Process, Product (CIPP) model; Training Validation System (TVS); and Input, Process, Output, Outcomes (IPOO) model (Phillips, 1991).

### 2.2 Effective Training

The guideline book published by The United States Office of Personnel Management [US-OPM] (2011) explains that effective training takes place when the analysis of EL1 and EL2 scores high and satisfactorily. This would mean that the response of the training participants is good and that they have acquired the expected skills or competence. Common indicators for an effective training would include programs offered, attendance, availability of study program catalog, reaction evaluation data, and the results of pretest and posttest. The former three indicators have low correlation with effective training, they just indicate the amount of time, effort, and money has been spent. The last two indicators are commonly used to confirm whether the training is effective.

D. Robinson and J. Robinson (1989) identify at least five indicators for an effective training: (1) training providers are only concerned with internal evaluation (EL1 and EL2), and the training outcomes are considered as the responsibility of the respective client's institution; (2) the more training conducted, the better their performance; (3) the transfer of skills from class to workplace is next to nothing; (4) no training need analysis; and (5) there is no share training responsibility assigned to client institution.

Effective training is important, but it is not enough since it just indicates an achievement in class. We never know if the alumni apply their knowledge and skills at the workplace and produce the expected outcomes.

### 2.3 Training Effectiveness

Training is effective when the acquired skills and knowledge are applicable at the workplace and foster the achievement of the institutional expectation and mission (US-OPM, 2011, p. 123). The mission achievement can be seen from the results of EL3 and EL4. The main goal of training is the accomplishment of the target performance of the client institution. The evaluation training approaches provide methods and tools to measure the accomplishment of the main goal.

International Atomic Energy Agency [IAEA] (2003) describes the principles of effective training by stating that the facility is organized, staffed and managed to provide training that supports the mission achievement. Training requires a strong commitment from IAEA line management to support training programmes that contribute to fulfilling company goals and objectives. The training mission must be clear, and the individual roles and

responsibilities need to be defined (p. 2).

Meanwhile D. Robinson and J. Robinson (1989) put forward five indicators of effective training that include (1) partnership with the client's institution; (2) client institution needs; (3) assessment of the training alumni performance; (4) infrastructure, facility and environment that support the training program; (5) measuring the training results/impacts.

New Zealand Quality Authority [NZQA] (2010) describes indicators for effective training in a wider perspective covering (1) ration of qualifications gained by a number of trainees employed in a company; (2) shorter time for trainers to attain qualifications; (3) survey of trainee satisfaction; (4) employer's satisfaction and credits earned; (5) proportion of trainees proceeding to higher level of qualification within industry

Presently many institutions have shifted their way of thinking from effective training to training effectiveness. This is triggered by their leaders' question about the training contribution to the achievement of the program objectives and institution mission.

#### *2.4 Kirkpatrick Business Partnership Model*

J. Kirkpatrick and W. Kirkpatrick (2009) developed a Kirkpatrick Business Partnership Model [KBPM] which was a model of planning, implementation, and evaluation training. It is conducted on partnership basis with a client institution. There are five foundational principles as the basis of KBPM: (1) the end is the beginning; (2) return on expectation (ROE) is the ultimate indicator of value; (3) business partnership is necessary to bring about positive ROE; (4) value must be created before it can be demonstrated; (5) a compelling chain of evidence demonstrates your bottom line value (as cited in US-OPM, 2011, p. 7). With a minor modification, schematically, KBPM consists of 18 phases that begins with identification of client needs and the expectation of the training results followed by program planning and implementation, and then training evaluation, support and facilitate training alumni to apply training results at the work place, and ended by reporting analyzed results of training evaluation (EL1 to EL4) to prove whether training results (rate of expectation [ROE]) has been achieved. In detail the 18 phases of KBPM is illustrated in the Figure 2.

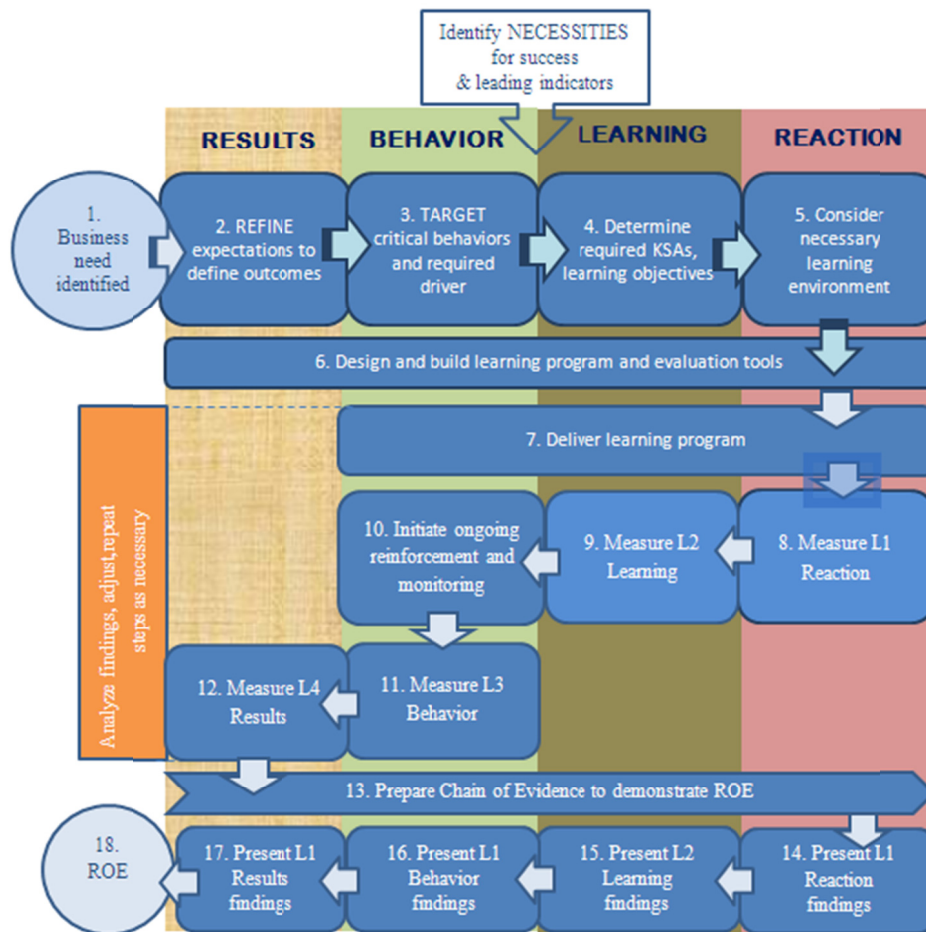


Figure 2. Kirkpatrick Business Partnership Model (KBPM)

### 3. Research Method

The method used in this study is *Research and Development* by D. Gall, P. Gall, and Borg (2007) that simplify the process into three phases: Pre-development model, Development model, and Validation model.

The pre-development phase is to review related theory, interview resource persons, and collect relevant documents. The main reference in this development is KBPM (2009) and Ministry of National Education of Indonesia regulation number 12, 2007 on school supervisor standard. The primary resource persons are from Yogyakarta Educational Quality Assurance Institute (YEQAI) as the responsible agency for organizing national training to strengthen school supervisor competence. The YEQAI resource persons are the Head of YEQAI, Head of the four sections, and two senior instructors. The result of this pre-development phase is an IBTEM draft.

Model development phase is to conduct focus group discussion (FGD) involving 40 representatives of YEQAI as the training facilitators and five regions (Yogyakarta City, Bantul, Kulonprogo, Sleman, and Gunungkidul) District Office of Education (DOEs) as client institutions. YEQAI is represented by 10 members (the head, 4 section heads, 5 senior instructors), while the respective DOEs is represented by four including one Program Planning Head, one supervisor coordinator, one supervisor, two training alumni supervisors, one school principal, and one teacher. The result of this development phase is a hypothetical IBTEM.

Model validation phase is to conduct internal and external validations. Internal validation is done by using modified Delphi Technique that involves IBTEM experts. They are experts in Educational Evaluation, Educational Management, and Vocational Education. The result of this phase is an IBTEM that is ready to be validated externally.

External validation is done by conducting separate FGDs in three national training providers in Yogyakarta: Center of Development and Empowerment for Arts Teachers and Educational Personnel (CDEATEP), Center of Development and Empowerment for Mathematics Teachers and Educational Personnel (CDEMTEP); and YEQA. Ten Respondents in each institution include all section/division heads (four), senior instructors or functional staff representative (six). The selection technique for respondents in those institutions previously mentioned is purposive random sampling as an agreement between researchers and those institution heads above. The result of this external validation is the final IBTEM.

**4. Research Results**

This section describes the results of research and development that covers: (1) formulation of IBTEM draft; (2) development of IBTEM; and (3) validity test of IBTEM.

*4.1 Formation of IBTEM Draft*

As previously explained, the main reference in the development of IBTEM is KBPM (2009) that consists of 18 phases. This KBPM was presented to YEQAI representatives in a meeting followed by discussion and question-answer sessions. Inputs from the meeting were accommodated, analyzed with reference to principles in *goal-based training evaluation approach*. The inputs from YEQAI can be described as the following. *First*, Phase 7 in Figure 3 (Deliver training program) used an approach of “*in-on-in*”, in which “*first in*” means deliver training in class, while “*on*” means implementation of the training material at the workplace, and “*second in*” means report and discuss the implementation of training material at the workplace. *Second*, to minimize the number of steps and make it easier to understand model, EL8 and EL9 are combined into one step, namely Step 8. *Third*, with the same reason, EL11 and EL12 are also combined into one phase, Step 9. Graphically IBTEM draft is illustrated in Figure 3 below.

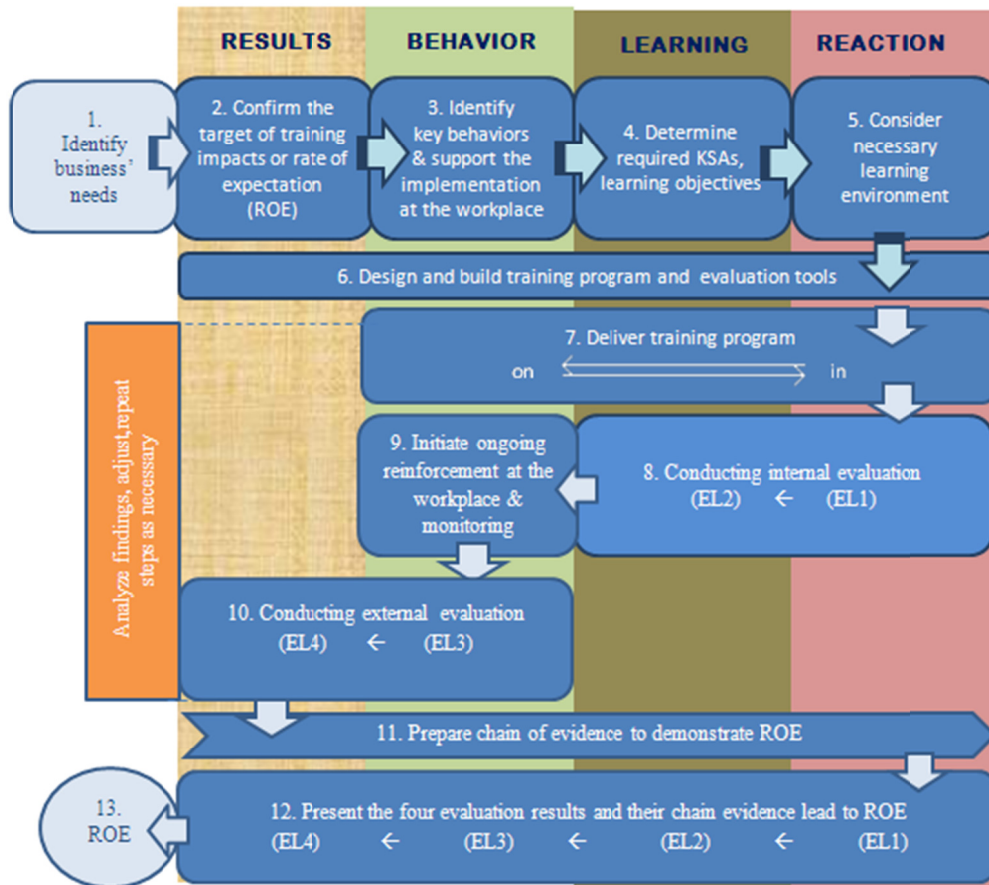


Figure 3. IBTEM draft

#### 4.2 IBTEM Development

IBTEM is developed by conducting FGD whose participants are those involved in national training for school supervisors capacity building. They are from YEQAI, Yogyakarta District Office of Education in Yogyakarta (YDOE), school supervisors training alumni, school principals, and teachers. At this FGD, the research team describes the IBTEM draft and its characteristics, and then let the participants respond and give feedback for IBTEM development geared toward promoting partnership between training providers and their client institutions, easy to understand, effective and efficient.

This FGD yielded the following response and feedback. The YEQAI participants critically review the national training plan. They explained that the national training is designed by the National Agency of Development and Empowerment for Teachers and Educational Personnel within the Ministry of Education and Culture in Jakarta. This training program is a national policy which is topdown in nature. The YEQAI serves as a training organizer at the provincial level in which case they do not have the authority to modify the training program including the evaluation approach to measure the effectiveness of training,

Then, YEQAI explained that up to now YEQAI generally has made efforts to conduct effective trainings in line with the local authorities. Internal Evaluation (EL1 and EL2) have been routinely conducted, but not evaluation at the workplace (EL3 and EL4). External Evaluations (at the workplace) have been articulated into training process in class by implementing *in-on-in* strategy in training class as Phase 7, which delivers training program. Report on training delivery process and analysis of evaluation results have always been written even though it have not yet in line with what is suggested in IBTEM draft. The things that have not yet been written refer to Phase 12 to know whether training results/impact have matched with the expected institution performances (ROE).

Within the YDOE, the school supervisors, principals, and teachers claim that the training programs so far are organized by the central government. This top-down approach often makes the district people disoriented since the national policy and regulations frequently change from time to time. As a result, the training providers do not want to conduct need training identification (Phase 1), and agreement on expected training outcomes between training provider and client institution (Phase 2). They state later on that such IBTEM implementation would require a number of well-trained personnel in external evaluation (EL3 and EL4), time, budget, and commitment of stakeholders.

YDOE and school agreed that IBTEM has to be comprehensive covering internal evaluation in training class (EL1 and EL2) and external evaluation at the workplace (EL3 and EL4). Even so, IBTEM needs to be simple, easy to understand, easy to implement (practical), and of course, effective and efficient in measuring the achievement of training objective. In addition, IBTEM needs a guide book for training providers as well as for client institutions.

Analysis of qualitative data collected by open questionnaire revealed that 67 percent of respondents respond positively to IBTEM. They agreed that as an evaluation model it promotes partnership between training provider and client institution, easy to understand, effective, and efficient. On the other hand, 33 percent of respondents stated that IBTEM is not practical and difficult to implement since it would need a lot of budget, human resources, and time.

IBTEM also needs human resources who have specific knowledge and skills to conduct and analyze impact-based training evaluation, especially for EL3 and EL4. Furthermore, they also suggested that the number of implementation phases still need to be minimized. The implementation of IBTEM needs supports from many relevant parties, although field evaluation (EL3 and EL4) would be potentially subjective.

All suggestions and criticisms for IBTEM development were accommodated, analyzed, to produce four inputs or feedbacks. *First*, to make simple model scheme without ignoring its essence, "Identify necessities for success and leading indicators" on top of KBPM scheme is eliminated because it should be inherent in phases of evaluation planning both in the training class and at the work place settings. *Second*, to avoid misunderstanding that IBTEM is an evaluation training model not planning training model, all phrases that are categorized in planning area should be eliminated. Consequently, Phase 6 in IBTEM Draft "Design and build training program and evaluation tools" is modified to "Design and build of training evaluation tools".

Third, Phase 7-"Deliver training program" is also eliminated, while *in-on-in* approach in model scheme is articulated in Phase 6 and in Phase 7. In the case of Phase 1-"Identify business' need", it is considered a planning area, even so it is needed as a starting step in evaluation proses. The forum agreed that this Phase was left there and considered as Phase zero (0). *Fourth*, if possible, ROE is continued by calculating the rate of investment (ROI) of the training. These four inputs will be combined with other inputs from validity test of the mode that will be

discussed in the next section. All these inputs will be accommodated then analyzed, and the results will be illustrated in IBTEM Final (Figure 4).

#### 4.3 IBTEM Validation

Model validation is done internally and externally. Internal validation is to examine whether conceptual framework and its content of IBTEM scientifically reflect an evaluation model. Therefore, IBTEM needs to be validated by relevant experts, while the purpose of external validation is to know whether IBTEM can be understood easily and practically implemented by participants at the workplace.

##### 4.3.1 Internal Validation

Internal validation of IBTEM is done by administering a modified Delphi Technique that the IBTEM document is not sent to the expert team but the team is invited to a meeting to provide arguments for an agreement. Expert team consists of three respective experts in the area of Educational Evaluation, Educational management, and Vocational Education. The conceptual framework of IBTEM which reflects results/impact oriented for client institution, partnership, coherence, simple, easy to understand, effective, and efficient is presented to the team. At the end of the forum, the expert team agrees to provide the following recommendations.

First, referring to a cycle model of quality management suggested by Deming (2000), the number of implementation phases in IBTEM needs to be classified into four categories: Planning Evaluation; Doing Evaluation; Checking (analyzing evaluation results and reporting); Action (revising or improving ROE). *Second*, when EL4 (Phase 8) does not meet institution expectation (ROE), Phase 8a needs to trace the causes. It is probably no facility which is needed to implement training results at the workplace or training alumni needs remedy in certain part of training material. *Third*, in line with the second recommendation, it is necessary to confirm whether results of EL4 (Phase 10) has met the agreed ROE (Phase 1). In this IBTEM scheme, this confirmation can be illustrated by an arrow. When training results (EL4) have met agreed ROE, client institution can raise its ROE and this would suggest that IBTEM is a cycle model of sustainable quality improvement in line with Kaizen principles (Akinoyemi & Abiddin, 2013).

These three recommendations resulted from internal validation will be combined with the four previous inputs from model development phase and produce the final IBTEM as shown in Figure 4 and ready to be externally validated. For the IBTEM implementation guide, the team agreed that the implementation guide should focus on four evaluation levels (EL1, EL2, EL3, and EL4), systematic description, analysis example for each level of evaluation, understandability, practicality, effectiveness, and efficiency.



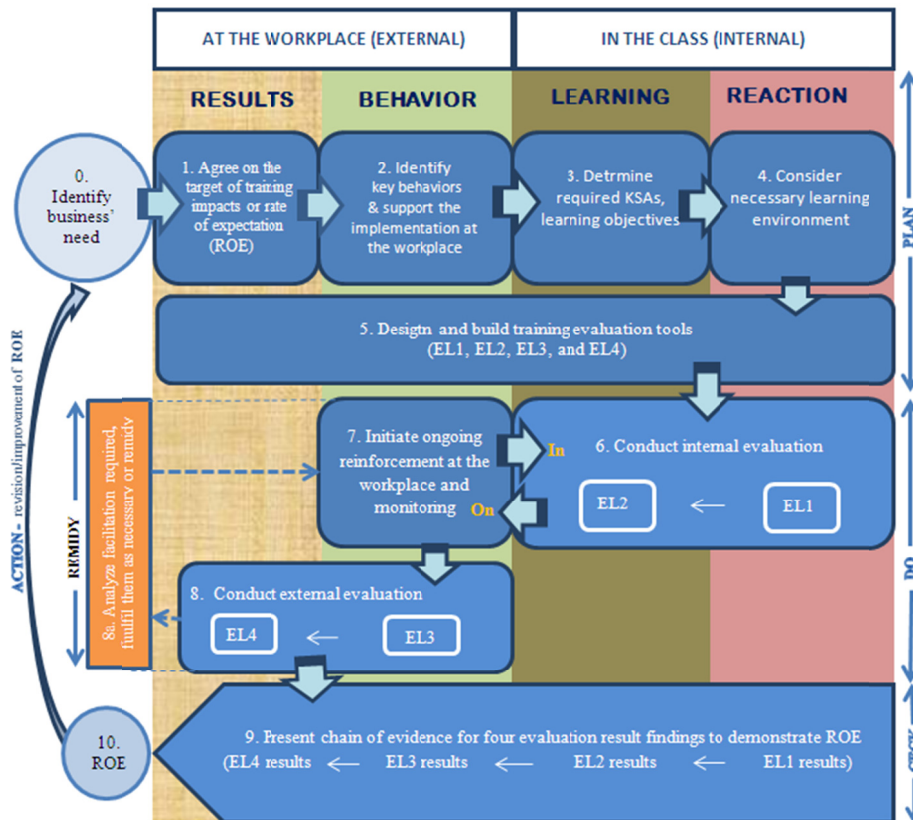


Figure 4. Internal validation results of IBTEM

### 4.3.2 External Validation

The objective of external validation is to know whether IBTEM as an evaluation model can be generalized for a wider population. The external validation was done by conducting FGD involving three national training providers, namely The Center of Development and Empowerment Arts Teachers and Educational Personnel (CDEAT), Center of Development and Empowerment for Mathematics Teachers and Educational Personnel (CDEMT); and Yogyakarta Educational Quality Assurance Institution (YEQAI). Total number of respondent was 30 people with 10 people from each institution. Respondents in each institution were represented by four (4) existing head divisions (general affairs, program planning, quality mapping, and facilitation) and six (6) functional senior staff members. There were two things need to be validated: (1) IBTEM as an evaluation model; and (2) Implementation guide of IBTEM.

#### 4.3.2.1 External Validation of IBTEM as a Model

Assessment of external validity to IBTEM as a model was done by distributing a closed and opened-questionnaire to respondents and asked them to assess on: (1) conceptual framework of IBTEM as an evaluation model depicted in Figure 4. The conceptual framework questionnaire comprises four aspects: partnership-oriented with client institution, easy to understand, effective, and efficient.

To know respondent assessment to IBTEM, we used four Likert scales that range from strongly agree; agree; disagree; to strongly disagree weighing score respectively 4, 3, 2, and 1. To determine IBTEM feasibility as an evaluation model, we firstly calculated ideal values of mean and standard deviation based on weighing score used. Mean ideal ( $X_i$ ) =  $\frac{1}{2} (1+4) = 2.5$  and Deviation Standard ideal ( $SD_i$ ) =  $\frac{1}{6} (4-1) = 0.5$ . Feasibility criteria of IBTEM as an evaluation model refers to the normal distribution curve within criteria ranges as shown in Table 1 below.

Table 1. Categorizing criteria for the feasibility of IBTEM as a model

Criteria	Interval Score	Feasibility Category
$X \geq (X_i + 1.5 SD_i)$	$X \geq 3.25$	Very feasible
$X_i \leq X < (X_i + 1.5 SD_i)$	$2.50 \leq X < 3.25$	Feasible
$(X_i - 1.5 SD_i) \leq X < X_i$	$1.75 \leq X < 2.50$	Not feasible
$X < (X_i - 1.5 SD_i)$	$X < 1.75$	Not very feasible

Data collection tool used in this study was questionnaire containing a number of questions on main characteristics that should be part of IBTEM as an evaluation model. The main characteristics are partnership-oriented with client institution, easy to understand, effective and efficient. The Collected data and information were analyzed and the results were presented in Table 2.

Table 2. Respondents assessment to IBTEM as an evaluation model

IBTEM character aspects	Likert Scale (1-4)		Description
	Score	Category	
IBTEM is capable to promote partnership with client institutions	3.47	Strongly Agree	Very Feasible
IBTEM is easy to understand	3.17	Agree	Feasible
IBTEM is effective to evaluate training impacts	3.30	Strongly Agree	Very Feasible
IBTEM is efficient to evaluate training impacts	3.23	Agree	Feasible
Overall Mean of IBTEM as a Model	3.29	Strongly Agree	Very Feasible

Note. 4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree.

Table 2 shows that mean score for all aspects (X) is 3.29 in the score range 1-4. It means that IBTEM is very feasible as an evaluation model. Mean score for each aspects of IBTEM is presented in Table 2 above.

#### 4.3.2.2 External Validity of IBTEM Implementation Guide

Feasibility assessment to IBTEM implementation guide covers five aspects that are comprehensive, coherent, easy to understand, effective, and efficient. The results of data analysis on respondent assessment to IBTEM implementation guide are presented in Table 3 below.

Table 3. Respondent assessment to IBTEM implementation guide

IBTEM character aspects	LikertScale (1-4)		Description
	Score	Category	
The Guide is comprehensive to explains the implementation of EL1-EL4	3.23	Agree	Comprehensive
The Guide is coherent to explain the implementation of EL1-EL4	3.07	Agree	Coherent
The Guide is easy to understand	3.20	Agree	Easy to understand
The Guide is effective to explain the implementation of EL1-EL4	3.07	Agree	Effective
The Guide is efficient to explain the implementation of EL1-EL4	3.33	Strongly Agree	Very efficient
Overall aspect Mean score of IBTEM	3.20	Agree	Feasible

Note. 4 = Strongly Agree; 3 = Agree; 2 = Disagree; 1 = Strongly Disagree.

Table 3 shows that the overall mean score is  $(X) = 3.20$ . It means that IBTEM implementation guide is overall feasible.

## 5. Discussion

Data analysis shows that IBTEM as a goal-based evaluation model is “*very feasible*”. This is [very] understandable because conceptually and technically IBTEM is really feasible with the following rationales. *First*, conceptually under IBTEM client institution is treated as subject, not as object, for that reason training is designed based on the spirit of partnership with goal/impact orientation as expected by client institution. Therefore, Phase 1 in IBTEM scheme (Figure 4) is to agree on defining outcome expected from the training. The same case for Phase 2 which is to agree on key behaviors and facilitation needed in implementing training results at the workplace. This means that client institution understands, agrees, and will be able to provide supports both policies and facilities needed by training alumni to implement what was learnt in training.

Second, to make concept clear, locus of evaluation is categorized into two locations: internal evaluation that is done in class and external evaluation that is done at the workplace. These two categories are placed at top of IBTEM Final scheme (Figure 4). Internal evaluation covers participant responses to training implementation (Reaction-EL1) and participant skills/competence [ability] gained at the end of training (Learning-EL2). External evaluation covers the implementation of training material delivered at the workforce (Behavior-EL3) and results/impacts gained by client institution (Results-EL4). This concept emphasizes that training evaluation covers both internal and external evaluation; therefore, training is not completed yet when it covers only internal evaluation and will not affect the institution. External evaluation is inseparable from internal evaluation and this is something to be done. Without external evaluation we will not know the effectiveness of the training.

Third, “in-on-in” approach in training delivery. It is an articulation of training delivery in class and its behavior evaluation (EL3) at the workplace. As explained before, the first and second “in” are training delivery in class and “on” is an application of training material at the workplace, at the same time, is an evaluation of key behavior implementation (EL3) at the workplace. The intention of EL3 is to know whether training participants are able to implement training material at the work place. If not, questions need to be raised on some issues, such as training alumni are not confident, some facilities needed are not available. This “in-on-in” approach is also a solution of traditional training that focus only on class activities. This approach is employed with partnership spirit with client institution and it may become learning experience for client institution in conducting behavior evaluation (EL3). This third rationale is in line with the first that treats client institution as a subject not as an object, in which case, it is in the aspect of conducting behavior evaluation (EL3).

Fourth, conceptually the 10 phases in IBTEM scheme (Figure 4) are categorized into three main phases: Planning, Doing; and checking. Planning consists of five phases (Phase 1-5). Doing consists of three phases (Phases 6-8), and Checking consists of two phases (Phases 9-10). This categorization is in line with Sinthukhot (2013). In his research model, *Evaluation Model for Internal Quality Assurance*, there are also three major phases: Preparation, Evaluation Procedure, and Reporting. However, these three major phases can still be added with Phase 4, that is, Action. This fourth phase makes up four major phases: Planning, Doing, Checking, and Action (PDCA), and forms a cycle of quality improvement management as suggested by Deming (2000). Action in this context means revising ROE when analysis on EL4 shows that training results in workplace is lower than ROE or increase ROE when training results at workplace has met or surpassed the target of training results.

Implementation of IBTEM is a matter of enculturation, or treating client institution as subject, and making the training results meet/surpass client’s needs. In Total Quality Management language, it would be known as “customer satisfaction”. In the enculturation process, there are two out of 14 Deming’s principles that are relevant: “*Adopt the new philosophy*” and “*Put everybody in the institution to work accomplishing the transformation*”. The new philosophy and transformation in IBTEM implementation is shifting paradigm from training for activity (TFA) to training for impact (TFI) as explained in the introduction section of this article.

Fifth, technically IBTEM is easy to implement because it comprises only 10-phases compared to its main reference KBPM that comprises 18 phases. The reduction of phase number was done because IBTEM focus only on evaluation scheme so that phases that were related to planning domain were eliminated. The elimination of planning phases (e.g., Phase 6-Design learning program and evaluation tools) was based on respondents’ feedback. The respondents indicated that they had difficulties to identify whether IBTEM draft (Figure 3) was training evaluation scheme or planning one.

The phase reduction by combining several into one, e.g. in results evaluation report, was from the four phases (EL1, EL2, EL3, and EL4). The reduction of phases is to simplify IBTEM scheme. This is exactly what is suggested by Rogers (1995, p. 242). In his book *Diffusion of Innovation*, he said that the simpler the concept of

an innovation the easier to understand, accept, and practice (triability) and at the end concept will be more attractive to implement.

The success of IBTEM implementation surely needs stakeholder's understanding on training effectiveness and commitment of the leader and staff both in training provider and client institutions. For that reasons, the following topics will be discussed as references to the success IBTEM implementation and its future implications: (1) promoting partnership; (2) effective training and training effectiveness; (3) leader commitment; (4) an ideal training evaluation model; (5) IBTEM's contribution to the development of science; and (6) challenges for IBTEM implementation.

### 5.1 Promoting Partnership

Partnership in this case means collaboration among relevant parties in designing, administering, and evaluating training. The main parties in training partnership are training designer and client institution that sends training participants. Table 2 shows that mean score ( $X$ ) for promoting partnership aspect is 3.47. It means that IBTEM as a training evaluation model is very partnership oriented. Phases 1 and 2 in Figure 3 conform to this description. Petersen (2011) defined "*partnership is an agreement when two or more people or groups work together toward mutual goals ... a partnership must benefit both sides for it to be truly effective*" (p. 5). Good partnership will place both sides on the same level of position. Both sides become subjects in determining ROE. Contradictory in conventional training, designer (generally in public institutions) acts as subject and training participants are treated as object. This commonly happens in trainings conducted by central/national government following top-down policies. In partnership oriented training, client institution is involved and empowered especially in administering EL3 and EL4.

### 5.2 Effective and Efficient Training

According to Merriam-Webster Dictionary (1984) effective means having an expected or intended effect or producing a desired effect, while efficient means acting directly to produce an effect (pp. 418-419). Sharma (2009) explains the word effective means *do the right things* and efficient *do the things right* (p. 96). Table 2 shows mean score ( $X$ ) for effective aspect is 3.30 that means IBTEM is "very effective" as an evaluation model. Mean score for efficiency is 3.23 that mean IBTEM is "efficient" to measure ROE. Therefore, IBTEM is functionally effective and efficient as an evaluation model for measuring achievement of ROE. To know training effectiveness we need to analyze EL4 whether this training result has met ROE. If it does not meet it, the cause(s) need to be traced through phase 8a in Figure 3 as explained in the earlier discussion. Especially in the context of private sector, training effectiveness should be followed up by calculating rate on investment (ROI). It is categorized as evaluation level 5 (EL5) as it was described by Phillips (2007) in Table 4 below.

Table 4. Phillips' five-level of evaluation

Level	Brief Description
Reaction, Satisfaction & Planned Action - EL1	Measures participant reaction to and satisfaction with the training program and participant's plans for action.
2. Learning of training material - EL2	Measures skills and knowledge gains
3. Application and Implementation of training material - EL3	Measures changes on-the-job application, behavior change, and implementation.
4. Business Impact - EL4	Measures business impact
5. Return on Investment (ROI) - EL5	Compares the monetary value of the business outcomes with the costs of the training program

Phillips (2007) explained that the ROI analysis procedure is done through four phases: Evaluation Planning, Data Collection, Data Analysis, and Reporting. Each phase is illustrated in following Figure.

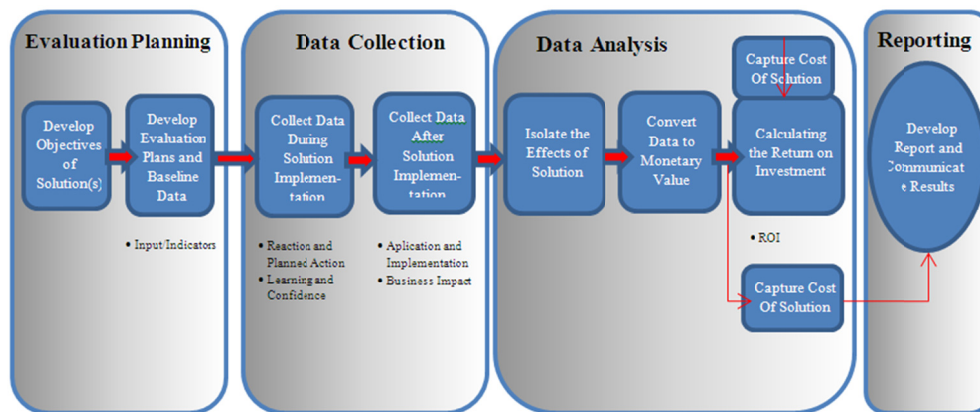


Figure 5. ROI analysis model

Mathematically ROI (in dollars) can be simply calculated using following formula.

$$ROI = \frac{\text{Total program benefits} - \text{Total program cost}}{\text{Total program cost}} \times 100\% \quad \text{or} \quad ROI = \frac{\text{Net program benefits}}{\text{Total program cost}} \times 100\%$$

The FGD participants of public institutions could accept that they have not needed yet to conduct ROI or EL5, it would be enough to conduct EL4 to measure ROE achievement. This tendency is in line with the government policy financial accountability that focuses on the amount of money (in percentage) spent at end of the fiscal year. The higher the percentage of expenditure (ideally 100%) the better score they get on their institutional performance. When an institution cannot spend all annual budget assigned, the remaining funds/budget has to be handed over to Public Treasury Fund Office. The higher amount of funds cannot be spent by an institution, the worse its performance score. This performance assessment tradition drives public institutions to spend all annual budgets without considering its program efficiency. Among other programs, training is generally considered the easiest program to spend the allocated fund. It has been a common practice now that educational training is the easiest way to spend the money with little attention paid to EL3 and EL4 even EL1 and EL2. Of course, these institutions are not interested in training effectiveness and efficiency.

### 5.3 Leader's Commitment and Character

There was consistency from one FGD to another in the way all participants agree that IBTEM implementation needs leader commitment than conventional training evaluation. Commitment in this case is especially on policy decision making followed by budget allocation, and time for the leader to be directly involved in IBTEM implementation. All these matters need to be articulated in vision, mission, and slogan of an organization. IBTEM should be considered as a new paradigm. Its implementation requires a paradigm shift as described earlier by Robinson and Robinson (1989) from conventional paradigm that focuses on activity in class or training for activity (TFA) to new paradigm which focus on institution impact or training for impact (TFI).

Concerning leader role in paradigm shift, Podsakoff, MacKenzie, Moorman, and Fetter (1990) described that leadership research has shifted from one examining the effects of transactional leadership to the identification and examination of those behaviors exhibited by the leader that make followers more aware of the importance of values of task outcomes, active in their higher-order needs, and induce them to transcend self-interests, for the sake of the organization. These transformational behaviors are believed to augment the impact of leader behaviors on employee outcome variables, because followers feel trust and respect toward the leader and they are motivated to do more than they are expected to do (p. 108).

This research description underpins that transformational leadership will accelerate the implementation of an innovation. Koehler and Pankowski (1997) explained further that transformational leadership is a process inspiring change and empowering followers to attain greater achievements, to improve themselves and to improve organization processes. It is an enabling process causing the followers to accept responsibility and the processes to which they are assigned." Furthermore, Wahab, Fuad, Ismail, and Majid (2014) concluded that: "There was a significant relationship between the level of headmaster's transformational leadership practiced and the teachers' job satisfaction and commitments (p. 40). Therefore, it is a need for all leaders in central, local,

and school levels in Indonesia to have commitment and characters of transformational leadership to support the implementation of IBTEM.

Implementation of IBTEM as an innovation is a part of organizational development and it potentially splits the organization members into two groups: supporters and opponents. Goetch and Davis (1994) explained that supporters of innovation are usually able to see the benefit of the innovation both for organization and for its members. On the other side, opponents may not see those benefits or they may worry losing their roles, or positions or even reducing their income. To this group, it is suggested not to intimidate them but instead, approach them and explain rationally that IBTEM will increase organization performance and credibility to the eyes of stakeholders and finally bring benefit to employees. The supporters of IBTEM have to be able to convince the opponents so that this group shifts their beliefs or paradigms from TFA to TFI as previously explained.

#### 5.4 Ideal Training Evaluation Model

Kirkpatrick's goal-based training evaluation model which was formulated in 1959, it consists of four levels has actually been developed in 1996 by Phillips (2007) into five levels as has been explained earlier. Then it was continually developed by Brinkerhoff (2006) into six levels of training evaluation. In facts, some scientists e.g. Becker (1993), O'Neill (2007), Hamblin (1974), and Bird et al (1970) with their CIRO (Context, Input, Reaction, Outcome) model have also developed this evaluation model. In details, the chronological development of this goal-based training evaluation model can be illustrated in the following Figure (<https://www.google.co.id/image> of brinkerhoff six level training evaluation).

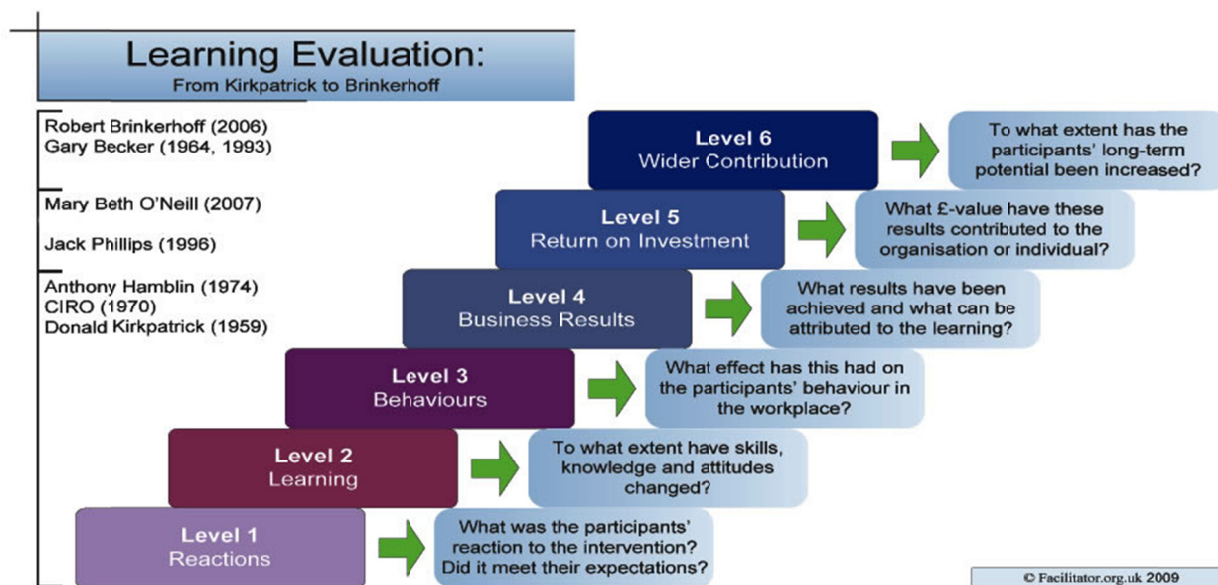


Figure 6. Ideal training evaluation model

This model is considered ideal since it evaluates long-term training impact on its alumni professional development (EL6), even though its implementation and results validation is not easy to do. There are many variables that influence professional development of the training alumni. This EL6 may be parallel with external effectiveness concept in education. Psacharopoulos and Loxley (1985) in Lockheed and Hanushek (1994) stated that “*External effectiveness has to do with the relationship between non-monetary inputs and monetary outputs. In education, this could refer to the degree to which certain pedagogical practices or school tracks affect student post-graduate salaries, other things equal. Studies contrasting the earnings of technical-vocational track graduate and the earnings of students graduating from academic tracks are examples*” (p. 6). The implementation of this evaluation model needs a tracer study in longitudinal approach. Consequently, the ET6 implementation needs knowledgeable and skillful people and more budget than IBTEM does.

#### 5.5 IBTEM Contribution to Science Development

The contribution of this research is the development of IBTEM as an effective and efficient goal-based training

evaluation model that partnership oriented, effective, efficient, and applicable to Indonesian context. The conceptual model is simpler, easier to understand, and more practical to implement than its main reference KBPM. In the perspective of Total Quality Management, IBTEM consists of four main steps as a quality improvement cycle: Plan, Do, Check, Action (PDCA) as suggested by Deming (2000).

In the context of organizational development, theoretically, the implementation of IBTEM should lead an organization to become learning organization, promote quality culture that eventually leads all employees to internalize values and principles of continuous quality improvement (*continuous quality improvement*) in line with Kaizen principle.

### 5.6 The Challenges IBTEM Implementation

Up to now, there is no much data and information available in Indonesia on the implementation of goal-based training evaluation. Tupamahu and Soetjito (2005), reported that generally companies in Indonesia have conducted training evaluation, but these evaluations were only conducted in class (EL1 and EL2), and never reach evaluation at the workplace (EL3 and EL4). Steffenny and Praptiningsih (2013) recently did a research in private company PT Jaya Mas Mandiri Plus in Surabaya, and they reported that this company had conducted EL1 to EL4, but no detail information reported except a little bit information that EL1 and EL2 results were satisfactory, and those results were analyzed based on company point of view. The researcher suggested that the future training evaluation needs to be done and analyzed based on the data and information collected from training participant point of view.

In short, not much information and data related to training evaluation available from both Indonesian private and state institutions. Similarly no reasons or causes identified for most institutions in Indonesia for not implementing goal-based training evaluation so far.

In response to those factors, a training evaluation field guide published by US-OPM (2011) categorized those causes for not implementing goal-based training evaluation into six potential reasons and offered the following recommendations. *First*, since there is not enough budget available for outside class activities, review the existing training programs and substitute them with other training activities that produce the same results. For those training programs that cannot be substituted, find an alternative form of class training led by instructors with, for example, on-line system. This training form can be accompanied by e.g., technical assistance at workplace, job rotation, coaching, and teamwork. This saving in money and time from the alternative programs above can be allocated to conduct EL3 and EL4.

Second, their leaders do not provide clear directions for doing EL3 and EL4. Therefore, information on impact-based training evaluation needs to be communicated openly to leaders that EL3 and EL4 will contribute to the achievement of organization mission. Third, leaders are only interested in conducting certain training but not in trying to develop other training models. It is recommended to share with leaders about ineffectiveness training and shows them research findings on effectiveness training using EL3 and EL4. Four, they do not have enough expertise except to conduct training in class. They should have done some things such as benchmarking, inviting training evaluation experts, or searching for relevant tutorial material in internet.

Fifth, they do not have enough staff in conducting EL3 and EL4, but they can arrange and conduct EL1 and EL2 as efficient as possible to save resources. Develop EL1 which is short and self-evaluation and use EL2 with retrospective pre- and post-assessments, not full pre and posttests. Allocate the saving budget for conducting EL3 and EL4. Do external survey for EL3 -EL4, FGD only for specific mission and programs. Sixth, their training staffs are not confident to do training evaluation outside class. In this case, they could hold organization workgroups, and then invite an outside professional speaker(s) to speak on results/impacts oriented training evaluation and the benefit of training partnership.

## 6. Conclusion

With reference to the objectives, this research infers that IBTEM as a goal-based evaluation approach turned out to be partnership oriented between training provider and clients, easy to understand, effective, and efficient. *Second*, IBTEM implementation guide was really comprehensive, coherent, easy to understand, effective, and efficient as a field guide. The implication of this research are (1) the IBTEM implementation would need stakeholder's commitment to shift their paradigm from training for activity (TFA) to training for impact (TFI); (2) there should be workshops or FGD for the selected stakeholders on how to implement IBTEM; and (3) Since IBTEM implementation needs human resources who have adequate knowledge and skills, therefore policies and budget should be proportionally allocated to conduct EL3 and EL4.

Further research needs to be conducted to tryout IBTEM with a wider range of respondents and longitudinal in

nature for planning and implementation for both state and private institutions. The limitation of this research, among others, was on the selection of senior facilitators (*widyaiswara*) as respondents in YEQAI and in PPPPTK were not taken randomly, but through an objective negotiation involving the researcher team and the institution Heads. Research method used in this study was dominantly quantitative that rely on a questionnaire as collecting data technique. For the future, research on IBTEM should be balanced with qualitative approach or mixed.

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