A Results-Based Monitoring and Evaluation Framework to Determine Performance and Success of ESD in TVET: The Case of the Philippines

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Outline

• Abstract
• Introduction
• Measurement of Program Performance
• Framework: a Proposal
• Logic Model
• Design Matrix
• ICT and M and E Systems for ESD in TVET
• Conclusion
ABSTRACT

• A design of a monitoring and evaluation (M&E) framework to help determine the performance and success of ESD (Education for Sustainable Development) program of TVET (Technical Vocational Education and Training) as applied to micro, small and medium enterprises in the Philippines – rubber, furniture, and plastic industry sectors.

• The proposal emphasizes the need to monitor and evaluate the program to get the desired results. Based management, success and performance, theory of change, TVET
ABSTRACT

• The formulated design will show how performance and success of the program can be measured empirically through processes that employ robust methodology and rigorous research techniques.

• It will also demonstrate how the applications of ICT (information and communication technology) and M&E can go hand in hand to form a strong management tool.

• The study will serve as a rich reference material in helping build evaluation capacity in the branches of government and the private sector.

• It will be of value, in particular, to the ESD program implementation of TVET as it will provide M&E guidance to businesses, communities, and institutions, especially those linked with TVET institutions.
Introduction

• Development intervention in education is an instrument used by the global community to improve living conditions in many parts of the world.

• In line with the task of achieving the United Nations Millennium Development Goals (MDGs), the international community works laboriously to reduce poverty, stave off hunger, and improve socio-economic well being of people through intervention programs.

• The Technical Vocational Education and Training (TVET) system is one of the programs that various countries implement to help achieve the MDGs.
Introduction

• TVET provides education and training opportunities to prepare students and clients for employment.

• It addresses the skills training requirements of people to upgrade or even develop new competencies - to enhance employability and improve productivity.

• In the Philippines, the Technical Education and Skills Development Authority (TESDA) plays the role of being the sole authority, enabler, manager and promoter of TVET (Syjuco 2005).
STRUCTURE OF EDUCATION in the Philippines

AGE OF STUDENT

22+
16 to 21+
16 and above
12 to 15
6 to 11

GOV'T AGENCY IN CHARGE

CHED
TESDA
DepEd

EDUCATION

POST GRADUATE
DIPLOMA
GRADUATE
UNDERGRADUATE

TECHNICAL VOCATIONAL COURSES
LESS THAN 1 to 3 YEARS
SECONDARY
4 YEARS
ELEMENTARY
6 YEARS
PRE-SCHOOL
3 YEARS
Introduction: Figure 1: Extent of TVET graduates in the Philippines, 2005

Figure 1. Extent of TVET’s graduates in the Philippines, 2005: TVET delivery modes (Source: Syjuco, A. 2005)
Introduction: Extent of TVET’s Reach in the Philippines

Legend: LGU = local government unit; HEIs/SUCs = higher education institution/ state college and universities; TESDA TI = TESDA training institutes; DepED = Department of Education

<table>
<thead>
<tr>
<th>TESDA TVET Providers</th>
<th>Types</th>
<th>Units</th>
<th>(% share)</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LGUs</td>
<td>844</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HEIs/SUCs</td>
<td>146</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TESDA TI</td>
<td>121</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DepED supervised schools</td>
<td>259</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>344</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>1,714</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td><strong>Private</strong></td>
<td>-</td>
<td>2,796</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td><strong>Total Providers</strong></td>
<td></td>
<td>4,510</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>
Introduction

• This study argues that the achievement of goal or aim should be the benchmark by which the success of an activity or endeavour must be measured.

• Achievement of a goal per se may not be foolproof realistic or totally attainable but determining if one’s endeavour is resulting toward the attainment of planned targets or program objectives would be a good measure to judge whether the effort is worthwhile in the first place.
Introduction

• It appears that no public and private organizations today, such as TESDA, exist without the vision-mission-goal thing.

• It is a global practice and one might be out of place if it has none. It shall be transformed into a measureable endeavour that tells one results are being achieved and not just outputs being produced.

• The mechanism for M&E is argued here as an integral part of the implementation of a policy, program or project. This is offered as a way of showing empirical evidence that the ESD-TVET project, for instance, is achieving its established targets and results. It shows success more ‘visibly’ and identifies failure more concretely.
"If we cannot measure results, we cannot tell success from failure.
If we cannot recognize success, we cannot reward it.
If we cannot reward success, we are probably rewarding failure.
If we cannot recognize failure, we cannot correct it.
If we can demonstrate results, we can win public support."


The application of Results-based Management principles in M&E for measuring performance & success.
Measurement of Program Performance

• In implementing development interventions, countries put together a system of counter checks and balances to see that results of implementation are measured and whether programs are performing according to intended objectives set at the planning stage.

• The purpose is to give feedback to proponents and stakeholders about the programs’ effectiveness.

• This ensures that the use of resources is worthwhile and future interventions are planned with a certain measure of success based on what was learned from previous programs.
The use of monitoring and evaluation (M&E) is a requisite for most of development interventions. An M&E framework is, ideally, a part of the design and plan of development interventions (Kusek, J. and Rist R. 2001). Recently it is a main requirement in all policies, programs and projects of the World Bank (WB), Asian Development Bank (ADB) and international donor institutions, such as JBIC, CIDA, and USAID, among many others.
Figure 2. Results-based approach to determining performance of development intervention programs - compared to the traditional approach (Source: Santos, R. 2010)
Introduction

• The results-based approach is concerned with assessing performance and success of programs by focusing on results.

• Results are analyzed, measured and compared with the set goals. This includes looking at the short term (effects), intermediate (outcomes), and long term (impacts) results of the intervention in the identified stakeholders, as well as the change in ‘environment’ where intervention is made.
Measurement of Program Performance

• This goal can be the *result* (or impact) that the intervention wants to attain.

• *Results-based management* principles require that assessment and measurement are made to show that increased tolerance is actually achieved.

• On top of these, the process can, by some measure, demonstrate that the attainment of goal is attributed or not to the *P2P program* itself - and thereby establish causality.
Design Matrix

**Figure 3.** Sample results-framework of ‘People to People Program’ (P2P Program), an educational program designed to increase intercultural harmony in Czech Republic (Adaptation from: Santos, R. et.al. 2008)
Figure 3. TESDA organizational structure. The TESDA Board is the highest TVET policy-making body in the Philippines (Adaptation from: Sijuco, A. 2005)
PROPOSED M & E FRAMEWORK

A design of a monitoring and evaluation (M&E) framework to help determine the performance and success of ESD program in TVET as applied to micro, small and medium enterprises in the Philippines is presented below.

• The proposed framework is based on a hypothetical determination of the theory of change for the program - referred from its published vision-mission-goal statements.

• The more ideal process, however, is for the M&E team designers to sit down with TESDA and through participative actions, determine the theory of change and collaboratively establish the M&E system of the TVET program.
The M&E Framework is designed to collect and provide information that will be used to:

- Track progress on implementation of all components of ESD-TVET program,
- Identify gaps and weaknesses in the service and training provisions,
- Plan, prioritize, allocate and manage resources,
- Measure the effectiveness and efficiency of training,
- Improve program implementation through application of ICT,
- Monitor & evaluate the impact of the ESD-TVET program on trainees and communities, and
- Provide feedback on performance and success of the program to the stakeholders, based on a set of criteria identified by ESD-TVET, among others.

These functions are hinged on the goals or impacts that ESD-TVET has targeted to achieve, such as:

- Improved Access and Equity in TVET
- Improved Assessment and Certification
- Decent and Productive Employment
- Enhanced Employability of TVET Graduates
- Improved capacity of the people to address environment and development issues
Theory of Change Model

<table>
<thead>
<tr>
<th>INPUTS</th>
<th>ACTIVITIES</th>
<th>OUTPUTS</th>
<th>RESULTS: EFFECTS / OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturers</td>
<td>Lectures to trainees</td>
<td>Trainees trained</td>
<td>Enhanced access to and utilization of TVET programs with courses grounded on environmentally responsive practices</td>
</tr>
<tr>
<td>Trainers</td>
<td>Training of trainees</td>
<td>Well-equipped &amp; capacitated</td>
<td>Increased quality of TVET programs, with improved capacity of graduates to address environmental sustainability issues, through enhanced standards, testing &amp; accreditation and evaluation procedures.</td>
</tr>
<tr>
<td>Course Materials</td>
<td>TVET capacity &amp; building initiatives</td>
<td>National &amp; regional TVET agencies and partners</td>
<td>- Highly improved quality of life of TVET recipients in the 3 sectors, with increased evidence of environmentally-responsive practice of each trade.</td>
</tr>
<tr>
<td>Budget</td>
<td>Formulate enabling policies &amp; strategies</td>
<td>Roadmap for devt plans &amp; strategies</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2.** Logic Model for TVET in the Philippines: Theory of Change for ESD in the rubber, furniture and plastic industry sectors
Measurement of Program Performance

- The Theory of Change model is a logical representation of the aspired menu of changes or the ‘envisioned future’ that the ESD-TVET program intervention is designed to accomplish.

- The model emphasizes the results that the program wishes to achieve - placed in strategic position relative to other components of the intervention, such as inputs, activities, and outputs.
**Table 3.** Design Matrix for TVET in the Philippines: ESD in the 3 sectors

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>SUB-QUESTION</th>
<th>TYPE</th>
<th>Measures &amp; Indicators</th>
<th>Target Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Is the ESD-TVET program being delivered to national/international standards?</td>
<td>Does the program conform to DepED/TESDA standards?</td>
<td>Nor m</td>
<td>Checklist of conformity with standard</td>
<td>Yes NA</td>
</tr>
<tr>
<td>3. Is the ESD-TVET program being delivered with good practice?</td>
<td>Is delivery of the program by TTs &amp; others, conforming to organisation standards?</td>
<td>Nor m</td>
<td>Checklist of conformity with internal standard documents, including hiring standards</td>
<td>Yes NA</td>
</tr>
</tbody>
</table>

Design: This can be time-series comparison. Program was designed to meet standards at inception, however the DepEd/TESDA standards may change over time.

Design: Random sample of training deliveries are observed. This question looks at the recruiting practices to make sure we have the right people, and also uses observation of delivery to ensure that good practice is maintained.
### Design Matrix for TVET in the Philippines: ESD in the 3 sectors

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>SUB-QUESTION</th>
<th>TYPE</th>
<th>Measures &amp; Indicators</th>
<th>Target</th>
<th>Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the mean increase in trainees’ awareness as a result of training intervention?</td>
<td>Pre- and post test</td>
<td>C &amp; E</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>4. Have the trainees gained an increased awareness of environmental issues related to practice?</td>
<td>Do the trainees believe that their own awareness has increased, as compared to subjects in the comparison group?</td>
<td>C &amp; E</td>
<td>Pre- and post test with comparison group</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>4. Have the trainees gained an increased awareness of environmental issues related to practice?</td>
<td>Design</td>
<td>Descr.</td>
<td>Focus group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Have the trainees gained an increased awareness of environmental issues related to practice?</td>
<td>Data Sources</td>
<td></td>
<td>Pre- and post test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Have the trainees gained an increased awareness of environmental issues related to practice?</td>
<td>Sample or Census</td>
<td></td>
<td>RP DepEd/TESDA Standard document, observation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Have the trainees gained an increased awareness of environmental issues related to practice?</td>
<td>Data Collection Instrument</td>
<td></td>
<td>Surveys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Have the trainees gained an increased awareness of environmental issues related to practice?</td>
<td>Data Analysis</td>
<td></td>
<td>Statistical comparison</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 4.** Design Matrix for TVET in the Philippines: ESD in the 3 sectors
## Design Matrix

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>SUB-QUESTION</th>
<th>TYPE</th>
<th>Measures &amp; Indicators</th>
<th>Target Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Is there evidence of environmentally-responsive behavioural change and practice as a result of the program?</td>
<td>What is the number of cases of environmentally-responsive practice among graduates, before and after the program; and in contrast to the comparison group, before and after?</td>
<td>C&amp;E</td>
<td>Census of all TVET - ESD techno-voc providers; and a sample of comparison providers</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>After program completion, do techno-voc providers’ administrators believe that the program has made a difference in trainees’ behaviour &amp; practice?</td>
<td></td>
<td>Survey: yearly</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Compared to before the programs, what is the evidence of increased activities &amp; practices identified as environmentally-responsive</td>
<td>C&amp;E</td>
<td>Focus group – randomly selected trainees/ techno-voc providers</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Table 5.* Design Matrix for TVET in the Philippines: ESD in the 3 sectors
Design Matrix

• The M&E Matrix designed hypothetically presents a framework for continuous monitoring of the program.

• It serves as a detailed guide for M&E personnel to keep track of the performance of the ESD-TVET implementation.

• Acting as performance monitoring framework (or plan), it is a matrix that combines in one structure the essence of the (a) Logic Model, which is a framework that shows the results in relation to other components of the intervention, (b) the Design Matrix, which presents the (research) evaluation questions, and (c) other M&E elements, such as the performance indicators and its types; baseline data and targets; data sources; data collection frequency and methods; person/office in charge of collection; and reporting strategy, among others.

• The matrix, which is an improved variance of the Logframe, is a flexible framework that can be expanded to include some other particulars of M&E, such as units of measure, data disaggregation, or estimated cost of collection, among others.
Design Matrix

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>SUB-QUESTION</th>
<th>TYPE</th>
<th>Measures &amp; Indicators</th>
<th>Target</th>
<th>Baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To whom was the program provided?</td>
<td>How many techno-voc providers?</td>
<td>Descriptive</td>
<td>Numbers of techno-voc providers implementing ESD</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>How many trainees?</td>
<td>Descriptive</td>
<td>Numbers of trainees trained in ESD</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>How many trainees accredited?</td>
<td>Descriptive</td>
<td>Numbers of trainees accredited?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>How many trainees employed?</td>
<td>Descriptive</td>
<td>Numbers of trainees employed?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 6: Design Matrix for TVET in the Philippines: ESD in the rubber, furniture and plastic industry sectors
# Design Matrix

<table>
<thead>
<tr>
<th>Program aims</th>
<th>Indicator</th>
<th>Type of indicator</th>
<th>Data needed</th>
<th>Baseline data</th>
<th>Target</th>
<th>Data sources</th>
<th>Freq. data collection/ methods/tools</th>
<th>In charge / data collection</th>
<th>Dissemination strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate result</td>
<td>Types of changes in laws or policies rel. to ESD-TVET could be + or - if evidence of a causal link to activities of TESDA</td>
<td>Policy changes that occurred thru direct initiatives by TESDA for such changes</td>
<td>TESDA, DOLE, (Others) database</td>
<td>Regularly</td>
<td>Desk R Case S FGD</td>
<td>Policy documents</td>
<td>Media reports</td>
<td>Annual report</td>
<td>Board meeting</td>
</tr>
<tr>
<td>Existence of supportive policies on ESD-TVET</td>
<td>Recipients of ESD training program</td>
<td># of people given training, # techno-voc providers w/ implementable ESD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stakeholders meeting</td>
<td></td>
</tr>
</tbody>
</table>
### Output

- Training provided to national & regional TTIs & others, to implement initiatives on ESD
- Well-equipped & capacitaded techno-voc providers
- Well-equipped & capacitaded national-regional TVET agencies and partners
- Roadmap for next plans & strategies

<table>
<thead>
<tr>
<th>Output</th>
<th>Trainees trained</th>
<th>Trainees certified</th>
<th>Techno-voc &amp; personne trained from support admin by TESDA</th>
</tr>
</thead>
<tbody>
<tr>
<td># of training recipients</td>
<td># technovoc provider s w/ implemtable ESD</td>
<td>TESDA, DOLE, (Others) data base</td>
<td>M&amp;E section</td>
</tr>
<tr>
<td>(Yes)</td>
<td>(Yes)</td>
<td>Yearly Desk R KII</td>
<td>Board meeting</td>
</tr>
<tr>
<td>(Yes)</td>
<td>(Others)</td>
<td>National regional units data</td>
<td>Stakeholders meeting</td>
</tr>
</tbody>
</table>

**Table 7.** M&E Matrix for TVET in the Philippines: ESD in the rubber, furniture and plastic
### Design Matrix

<table>
<thead>
<tr>
<th>Program aims</th>
<th>Type of Indicator indicator</th>
<th>Data needed</th>
<th>Baseline Data</th>
<th>Target Data</th>
<th>Data source</th>
<th>Freq. data collectn, Method tools</th>
<th>In charge/data collectn</th>
<th>Dissemination strategy</th>
</tr>
</thead>
</table>
| **Goal/Impacts**<br>- Increased national and regional capacity to provide young people access to TVET and expanded employment opportunities in the rubber, furniture and...<br>- Increased access to ESD-TVET programs<br>- Increased presence of employment for training graduates<br>- (Others) | **Increased impact**<br>- 12% in 10 yrs<br>- 3% yr<br>- 9% yr<br>- 5% 1st yr<br>- (Yes) | **Percentages**<br>- 5%<br>- 12%<br>- 3%
| TESDA, DOLE, (Others) database | Yearly Desk R 1-shot survey Quasi-E Time series Case S FGD | M&E sectio | Annual report Impact assessment report |

**NOTE:** Entries are hypothetical, assumed and may not fit.
### Design Matrix

**Intermediate results**
- Enhanced access to and utilization of TVET programs with courses grounded on environmentally responsive practices.
- Increased quality of TVET programs, w/ improved capacity of graduates to address environmental sustainability issues, thru enhanced standards, testing & accreditation & evaluation procedures.

<table>
<thead>
<tr>
<th>Expanded and effective admission in ESD</th>
<th>Actual cases of effective and results-oriented ESD programs developed</th>
<th>TESDA, DOLE, (Others) database</th>
<th>Yearly Desk Report</th>
<th>National Case S FGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective and results-oriented training programs on ESD-TVET</td>
<td>(Yes)</td>
<td>(Yes)</td>
<td>M&amp;E section</td>
<td>Impact assessment report</td>
</tr>
<tr>
<td>(Others)</td>
<td>%....</td>
<td>(Others)</td>
<td>Annual report</td>
<td></td>
</tr>
</tbody>
</table>

**Table 8.** M&E Matrix for TVET in the Philippines: ESD in the rubber, furniture and plastic industry sectors
Design Matrix

• The above presentation on the basic building blocks of an M&E framework for ESD-TVET implementation is just an initial step towards formulating a credible monitoring and evaluation system.

• An M&E system that can help TESDA determine the performance and success of its programs based on empirical evidence is possible through this process.
ICT and M & E systems for ESD in TVET

- ICT can be an indispensable tool for the M&E system designed for ESD-TVET programs. Its use can extend from the design and planning of the training programs, to its implementation and management, up to the monitoring and evaluation and presentation of the results of the program.

- *Project Implementation and Management*: ICT can revolutionize the project management process of ESD-TVET programs.

- Web based tools are especially valuable in speeding up communication, lowering relative communication costs, and broadening learners’ access to information.

- Project management applications make possible detailed documentation, easier data organization and retrieval, and provide a secure platform of communication and information exchanges among team members.
ICT and M & E systems for ESD in TVET

- *Program Monitoring and Evaluation*: A well-designed database system can deliver organized data for one or multiple uses, facilitating comparative measurements and monitoring over a period of time.

- *Program Design Collaboration Tools*: ICT collaboration tools facilitate the process of creating a training program or curriculum.

- *Reporting and Audience Engagement*: ICT has made knowledge a viable resource - it can be a driving force in developing within ESD-TVET an outlook of continuous, flexible learning.
Conclusion

• The proposal for an M&E framework that can support ESD-TVET implementation in the Philippines is discussed and illustrated in the study.

• It provided an overview of the value of incorporating a mechanism for monitoring and evaluation in any system of government functions - for policy, program or project being planned and implemented.

• The example enables understanding of a system by which monitoring and evaluation of performance can be carried out for ESD-TVET.

• It emphasized that it is a requisite for providing evidenced-based management of the project.
Conclusion

- As a recommendation, an independent evaluation of the ESD-TVET Program can be done by utilizing an external body of evaluators, aside from an M&E system that is integrated within the TESDA management domain.

- This will enable determination of performance and providing evidence on the achievement of results through independent means. This process, however, was not covered in this paper.
Conclusion

• The framework is proposed for implementation of ESD-TVET in micro, small and medium industry sectors, namely: rubber, furniture, and plastic industry sectors. However, the paper pointed out that a need for a comprehensive M&E system in TESDA exists.

• The paper also highlighted the great potential contribution of ICT in supporting the establishment and implementation of a specific M&E system for ESD-TVET.
THANK YOU for listening
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