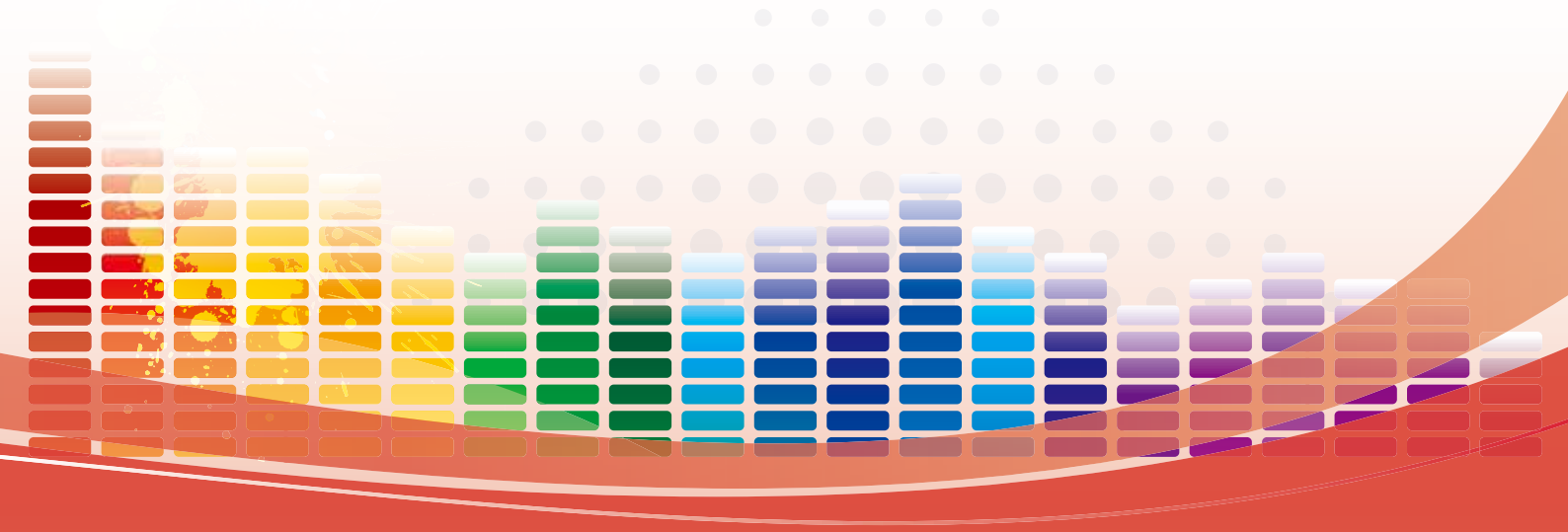
The Primer Series on ICTD for Youth

Monitoring & Evaluation Guidebook



UNITED NATIONS
APCICT-ESCAP

Primer Series on ICTD for Youth

Monitoring & Evaluation Guidebook

Lead Author
Rutth Rosario D. Gerochi

Supporting Author
Maria Felda C. Alarkon

APCICT ASIAN AND PACIFIC TRAINING CENTRE FOR INFORMAION AND COMMUNICATION TECHNOLOGY FOR DEVELOPMENT

The Primer Series on ICTD for Youth

Monitoring & Evaluation Guidebook

Contact:
United Nations Asian and Pacific Training Centre for Information
and Communication Technology for Development (UN-APCICT/ESCAP)
5th Floor G-Tower, 175 Art Center Daero
Yeonsu-gu, Incheon (22004)
Republic of Korea

Telephone: +82 32 458 6650
Fax: +82 32 458 6691
E-mail: info@unapcict.org
http://www.unapcict.org

ISBN: 979-11-952979-4-8 (93300)

Design and Layout by Docufriends
Printed in the Republic of Korea

PREFACE

The Asian and Pacific Training Centre for ICT for Development (UN-APCICT/ESCAP) was established in June 2006 with a principal mission of building the human and institutional capacities of Asia-Pacific countries on using information and communication technologies (ICT) for development. Guided by this mission, the Centre launched flagship capacity building programmes that help to deepen understanding of ICTD issues as well as strengthen national capacities in the region on leveraging ICT in development strategies and programmes.

The Academy of ICT Essentials for Government Leaders, launched in 2008, is APCICT's flagship capacity building programme that is targeted to government leaders, policymakers and civil servants. Recognizing the need to also build the ICTD capacities of society's future leaders, who are today's students and youth, APCICT initiated the Primer Series on ICTD for Youth. The Primer Series are learning resources targeted to the future workforce of Asia and the Pacific and which equip them with the requisite knowledge of ICT applications in development.

Since its launch in 2012, the Primer Series has expanded both in content and geographical reach. It has contributed to the expansion of the coverage of ICTD education in institutions of higher learning in Asia and the Pacific. The Primer issues, which cover various themes and topics on ICTD, are now being utilized by an increasing number of universities and colleges in the region, reaching thousands of students and youth.

While significant achievements have already been achieved under the Primer programme, there is a need for a comprehensive and streamlined approach to monitoring and evaluating its progress and impact, particularly at the institutional level where the Primer is being utilized. It is for this reason that APCICT is now introducing the M&E Guidebook for the Primer Series on ICTD for Youth.

This guidebook aims to provide Primer partners with practical, step-by-step guides for designing and conducting M&E for the Primer Series in a comprehensive and systematic manner. It intends to help partners understand key concepts of M&E, as well as methodologies to collect and analyze data, and report findings effectively. With case studies and samples provided in this Guidebook, the Primer partners will be able to initiate M&E activities easily in their work.

The process to develop this Guidebook involved an inclusive and participatory approach. Over 30 university professors, trainers and administrators in ICTD education were engaged in the multiple rounds of online reviews and face-to-face discussions during content development. The structure and content were also extensively reviewed and discussed from a broader ICTD project management perspective during the Regional Workshop on ICTD Project Management and M&E held in April 2014 in Incheon, Republic of Korea.

I would like to express my gratitude to Ruth Rosario D. Gerochi, the lead author, and Maria Felda C. Alarkon, the supporting author, for their enthusiasm and dedication to creating this M&E Guidebook. I also would like to recognize the contribution and thank APCICT's partners and workshop participants who generously lent their expertise and time to provide valuable feedback. My thanks also go to Christine Apikul for editing the manuscript. Lastly, a note of gratitude is extended to the Korea International Cooperation Agency (KOICA) for their generous financial support.

I sincerely hope that this Guidebook helps our partners effectively carry forward M&E initiatives in the use of the Primer Series. Ultimately, this Guidebook will contribute towards improving the way the Primer Series are adopted and utilized in institutions of higher learning, and further strengthening ICTD education for society's future leaders.

Hyeun-Suk Rhee, Ph.D.
Director
UN-APCICT/ESCAP

INTRODUCTION

About the M&E Guidebook

This Monitoring & Evaluation Guidebook is a companion for the Primer Series on ICTD for Youth. The Guidebook's ultimate goal is to ensure that the target youth participants acquire the competencies to use information and communication technology (ICT) for achieving sustainable development goals.

The Guidebook will enable the Primer Series implementing partners to determine the extent to which the youth participants have attained the learning objectives and project outcomes. More specifically, this book will guide the Primer Series implementers to:

- Concretely translate the learning outcomes and objectives into measurable changes in knowledge, skills and motivations
- Define concrete measures to determine level of project accomplishment
- Adopt and innovate monitoring and evaluation (M&E) tools to measure and analyse performance of the project and its participants
- Determine the M&E schedule and mechanisms
- Report the results of the M&E based on stakeholder's profile

The Guidebook's framework is based on the APCICT Monitoring & Evaluation Toolkit developed for the Academy of ICT Essentials for Government Leaders Programme, which will be used as reference guide for basic principles and tips on M&E and the M&E system. Hence, the two documents may be used together.

The Guidebook is not written to monitor and evaluate the different kinds of ICT for development (ICTD) projects. The Guidebook content and format is only suited for the Primer Series, and intended for the use of partners as they implement the Primer Series in their respective contexts.

Contents of this Guidebook

The Guidebook is divided into three major parts:

Part 1: Monitoring & Evaluation Fundamentals

Learning objective: To Understand important and relevant information on M&E that will be needed to use this Guidebook.

This part is further divided into the following sections:

- Section 1 – Definition and use of M&E
- Section 2 – Essential requirements for a valid and reliable M&E
- Section 3 – Translating the Primer Series Project Plan into an M&E Plan
- Section 4 – Sustaining the M&E of the Primer Series

Part 2: Monitoring & Evaluation Methods and Tools

Learning objective: To learn applicable methods to monitor and evaluate the participants and the implementation of the Primer Series.

This part is further divided into the following sections:

- Section 1 – Tools for participants and resource persons
  - Measuring learning outcomes
  - Framework for gathering data and analysing results of learning outcomes
  - Measuring the delivery of seminars
- Section 2 – Tools for implementers and external stakeholders
  - Assessing the implementation of the Primer Series
  - Assessing the content of the Primer Series
  - Tools for external stakeholders
- Section 3 – Steps for analysing data and information
  - Guide for quantitative analysis
  - Guide for qualitative analysis
  - Analysing the results of tools from Primer 1

Part 3: Reporting Monitoring & Evaluation Results

Learning objective: To know the approaches to report the M&E results effectively to different stakeholders.

This part is further divided into the following sections:

- Section 1 – Determining the profile of M&E stakeholders
- Section 2 – Reporting important data and information from the Primer Series M&E results
- Section 3 – Presenting M&E results

TABLE OF CONTENTS

List of Tables

List of Figures

List of Boxes

Acronyms

APCICT	Asian and Pacific Training Centre for Information and Communication Technology for Development
ESCAP	Economic and Social Commission for Asia and the Pacific
ICT	Information and Communication Technology
ICTD	Information and Communication Technology for Development
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
UN	United Nations

Part One
Monitoring & Evaluation Fundamentals

Learning Objective: To understand important and relevant information on M&E that will be needed in use of this Guidebook.

Section 1: Definition and use of M&E: What is M&E? How will you benefit from an M&E of the Primer Series?

Section 2: Essential requirements for a valid and reliable M&E: What do you need to ensure that results reflect the actual state of participants and the project?

Section 3: Translating the Primer Series Project Plan into an M&E Plan: How do you develop measurement indicators for learning objectives and project targets? How do you sustain your M&E?

Section 1: Definition and Use of M&E

M&E involves systematic, regular data collection and analysis during the lifetime of a project or an organization to determine if the project or organizational outcomes are attained as planned. The focus of this Monitoring & Evaluation Guidebook is at the project level (not organization and programme).

Broadly, there are three different types of projects:

1. Physical/infrastructure projects
2. Technical projects, e.g. ICT-related projects
3. Socio-economic projects, e.g. learning and development projects

The M&E that will be conducted through the assistance of this Guidebook pertains to learning and development (socio-economic) projects and will entail both learning content and project implementation processes.

Data collection and analysis are done throughout the life cycle of the project (see box 1 for the different aspects of M&E that require data collection and analysis). The tools for data collection and analysis are usually embedded into the activities of the project in order to make M&E seamless and part of the management system of the organization.

In general, when monitoring is done on a specific element of a project, it is assumed that evaluation has already been undertaken as well. While this may be the case in particular projects, for the Primer Series, it is important to distinguish monitoring from evaluation. These are two different but very interrelated activities. For the Primer Series partner, monitoring can be done regularly on course delivery activities while a full evaluation of the project may be done annually as basis for reporting to sponsors and to the APCICT. The remaining portion of this section will discuss the difference between monitoring and evaluation and how they are interrelated.

Types of M&E

Process – are planned activities being implemented (effectiveness)
Technical – are strategies and technical inputs working (relevance, effectiveness)
Assumption – are external assumptions about the project correct (strategic)
Impact – are what effects of the project on stakeholders (results)
Financial – are how financial resources used versus planned budget (efficiency)

Box 1. Types of M&E

Source: Frank Otieno Odhiambo, "Types of Monitoring in Monitoring and Evaluation (M&E)", Monitoring and Evaluation Blog, 2 July 2013. Available from http://evaluateblog.wordpress.com/2013/07/02/types-

Monitoring is the systematic and continuous collection of data and information pertaining to specific learning and project indicators. The data and information are gathered to determine if the ongoing project implementation is consistent with what has been planned by the project implementers. Monitoring the status of the project asks the question: What is happening to the project at this point in time? Monitoring the participants' response to the learning modules of the Primer Series asks the question: What is the level of participants' satisfaction on the content and delivery of the modules? What are they learning from the different modules? A sample of a monitoring report is shown in Table 1.

In Table 1, the partner monitored and recorded the actual project performance across two different time frames and compared the actual performance versus the target results. The monitoring report presents the actual data, and ensures that data and information are validated to present an accurate picture of

Table 1. Sample monitoring report for 2013

Indicators	Targets for 2013	Actual performance as of the 4th month	Actual performance as of the 6th month
Number of courses implemented	Primers 1-4 within six months for January-July 2013	Primers 1 and 2 implemented	No course implemented
Profile of participants attending the Primer series	90 university student leaders from public/ state universities in metropolitan areas	35 university participants from state universities • 10 student leaders from metropolitan areas • 25 participants from rural areas	No participant trained

what is happening to the project in specific time frames.

Evaluation is the systematic analysis of data and information to determine the overall performance of the project, and determines if the project has attained its desired results as stated in the Primer Series project plan. The evaluation process derives its data and information from the different monitoring reports; and it also gathers additional information from relevant stakeholders.

Evaluation determines the performance of a project on five levels: relevance, effectiveness, efficiency, sustainability and impact.[1]

Relevance refers to the usefulness of the Primer Series content to the target participants. A relevant content will enable the participants to apply the course to specific issues in their university or community. It can also include the level of innovation done on a Primer Series in order to respond to the needs of the participants and to the development happening in the local context.

Box 2. REESI

Effectiveness pertains to the project's capacity to deliver or accomplish its targets within the specified time frame. While efficiency is related to the project's judicious use of all its resources in implementing the different activities. It also includes the project's ability to produce outputs, such as course materials, in a timely manner.

Sustainability is the project's capacity to sustain the different results of the project even beyond the project life.

Impact is the project's capacity to contribute to long-term goals of the institutions, e.g., influencing the country's policy on ICT.

A few examples of the five levels are provided below:

- Relevance – Learned topics in the Primer Series that can be applied immediately by the participants in issues they confront. For example, participants trained in ICT for Disaster Risk Management used what they learned to plan school relief operations, or participants trained in

1 OECD DAC Network Development Evaluation, Evaluating Development Co-operation: Summary of Key Norms and Standards, second edition. Available from http://www.oecd.org/development/evaluation/dcdndep/41612905.pdf.

Project Management and ICTD used what they learned to manage students' engagement in various community immersions.

- Effectiveness – Project implemented 85% of its targeted activities, and achieved 90% of its targeted project outcomes (results).
- Efficiency – Project achieved 90% of its targeted outputs (e.g. the number of workshops organized, participants trained, course materials and handouts developed, and resource persons trained), using 75% of its budget within the specified time frame. It was also able to meet all targeted outputs ahead of time (average of two days ahead of time).
- Sustainability – Project partnered with an ICT training institution for universities, and the institution will include the Primer Series as part of its core curriculum.
- Impact – Faculty and students integrated ICTD in their service training programme. The impact of the integration is the synergy across groups and course content.

Using the same case presented above in Table 1, Table 2 shows the same indicators, targets and monitoring results for two periods. It also shows an evaluation portion based on the monitoring results.

Table 2. Sample mid-year evaluation of performance

Indicators	Targets for 2013	Actual performance as of the 4th month	Actual performance as of the 6th month
Number of courses implemented	Primers 1-4 courses implemented within six months for January-July 2013	Courses for Primers 1 and 2 implemented	No course implemented
Profile of participants attending the Primer series	90 university student leaders from public/ state universities in metropolitan areas	35 university participants from state universities • 10 student leaders from metropolitan • 25 participants from rural areas	No participant trained

Analysis of Performance (Mid-year Evaluation of Performance):

Efficiency – The project was on track to meet its target for Primer Series courses implemented up until the 4th month. But it failed to conduct any further courses after the 4th month. Project record shows that the project spent nearly all of its funds on the third month. Also, two of the staff members resigned from the project during the fourth month of implementation. These records were validated by key informants. The level of project efficiency is at 2 (using a scale of 1-5, where 1 is low efficiency and 5 is high efficiency).

Relevance – The project did not receive any enrolment after the fourth month due to university participants' feedback (from metropolitan areas) that the course content is not applicable in their situation. The participants rated the relevance of topics at 2 (topic not applicable in my area of interest).

Recommendations - Based on these two levels, efficiency and relevance, the project needs to make major changes and improvement in its selection of course content and in its project management.

Table 2 provided the different factors that affected poor project performance and presented recommendations based on these factors. Evaluation provides recommendations based on its analysis of various factors that affect the performance of the project. It is a process that uses different research methodology for data gathering and analysis in order to determine the different reasons why a project is performing in a particular way.

In order to fully maximize the value of its M&E, the M&E plan must be a "front-end" document. This means that the M&E plan must be developed together with the project implementation plan, before the start of project implementation. The usual practice often creates the M&E plan when the project is near its completion, and only evaluates what has been completed. As a good practice, M&E must be an ongoing process that is undertaken after each important milestone of the project life and cycle of the Primer Series, and the analysis should look at what has been completed against what was initially planned. The Primer Series M&E results are your evidence-based feedback to all internal and external stakeholders of the project. Information from the M&E results are also important inputs for improving project performance.

Figure 1. M&E in phases of project management

For more information and samples about the definition and nature of M&E, please see the APCICT Monitoring & Evaluation Toolkit.

Section 2: Essential Requirements for a Valid and Reliable M&E

For stakeholders to use your M&E results with confidence and base their decisions on these results, your M&E results must be considered credible. Ensuring credibility of results is based on the following elements:

1. Data gathering tools and activities must be reliable and valid. The tools must measure exactly what it wants to measure. A tool for measuring participants' comprehension and retention of topics must exactly measure these factors and not other factors in the project like effectiveness of course delivery methods and resource persons. A combination of data gathering methods must be employed to measure a particular factor so that results from one method can be validated (or not) by other methods. Combining a quantitative survey with a qualitative interview will enable you to determine if there is consistency of answers for a particular factor you are measuring, e.g. relevance of the course content for student leaders.

2. Analysis of results must also use reliable tools and approaches. Statistical tools must match the kind of data you have. Qualitative analysis must also follow the kind of qualitative approach used. For example, transcriptions from interviews can be analysed using thematic analysis (qualitative approach) or content analysis (quantitative approach) depending on the level of detail you want to derive from the interviews. For more information on research methods, you may want to read:

    a. John W. Creswell, Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, Second Edition (Sage Publications, 2003)
    b. David Silverman, Doing Qualitative Research: A Practical Handbook, Second Edition (Sage Publications, 2005)
    c. Frederick J. Gravetter and Larry B. Wallnau, Statistics for the Behavioral Sciences, Eighth Edition (Cengage Learning, 2007)

In the APCICT Monitoring & Evaluation Toolkit, reliability, validity and timeliness are identified as important and necessary for attaining credibility and usefulness of M&E results:

Reliability is a measure of the stability, dependability and consistency of data and results across time and space. This means that using the same indicators and analysis techniques produce similar results. For example, the Academy partner obtains consistent results across five modules in two years when using the same instrument to measure level of satisfaction on module teaching approaches. Reliability measures provide evidences that programme interventions such as course deliveries are effective or not effective.

Validity is the measure of the accuracy and clarity of a concept or reality that the instrument intends to measure. The focus of measurement here is a particular concept or condition. The instruments must be able to measure what it is intended to measure in an accurate and clear manner. For example, if the indicator being measured is the improvement in participants' attitude towards ICTD, the result of the tool must clearly and accurately show the change in beliefs and behaviour of the participants towards ICTD. If the instrument showed a change in attitude towards Internet usage instead, then that instrument is not a valid measure of the attitude on ICTD.

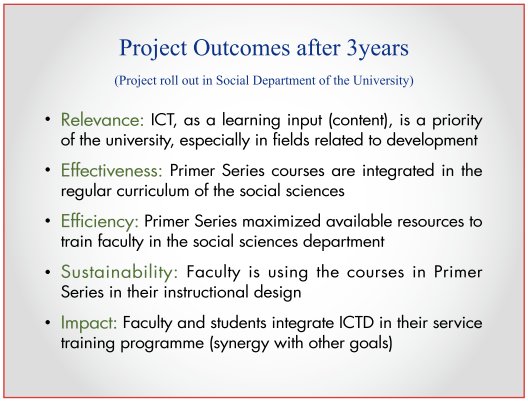
Timeliness is a measure of the frequency (how often) and currency (when) of data collection and the production of results. Reliable, valid and timely information enables programme stakeholders to make accurate decisions about the programme.

Part 2 of this Guidebook discusses the different methods and sample tools in data gathering and analysis.

Section 3: Translating the Primer Series Project Plan into an M&E Plan

A five-step process to translate the Primer Series Project Plan into an M&E Plan is described below.

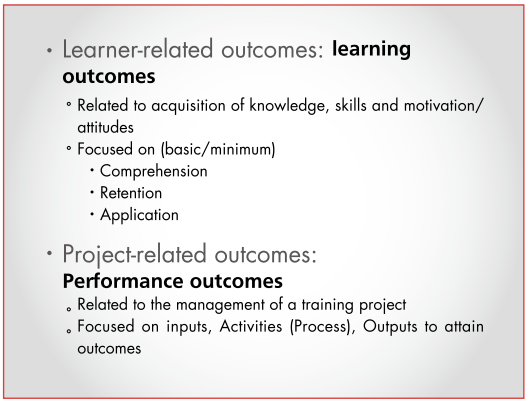
Step 1: Finalize you Project Plan. Your Primer Series Project Plan[2] must have clear statements of outcomes or results. Outcomes state the desired benefits that you and your organization want to realize and measure at the level of the target stakeholders of the Primer Series. Outcomes are broad and very clear statements of target results. Outcomes may be defined along the REESI (see box 2). A sample of project outcomes is shown in box 3.



Box 3. Project outcomes after three years (sample)

A specific outcome area in the REESI may be further elaborated to ensure that results are clear. For example, the sustainability outcome(s) of the Primer Series or the M&E of the Primer Series may be developed using the following sustainability guidelines:

- Ability to replicate the project processes on their own (replication)
- Ability to produce the same outputs (products and services) with the same quality on their own (production)
- Ability to expand the coverage of processes and outputs to other areas (expansion)



Box 4. Learning and performance outcomes

- Ability to integrate project processes and inputs in the existing programmes, systems and/or structures (institutionalization)
- Ability to access and generate resources to continue the processes and inputs (viability)

For the Primer Series, the Guidebook recommends two important outcomes that must be defined—learner-related outcomes and project-related outcomes (see box 4).

2 For a guide in developing the Primer Series Project Plan, refer to the APCICT Monitoring & Evaluation Toolkit (available from http://www.unapcict.org/academy/academy-modules/english-version/Academy%20M-E_July%202013.pdf); and Primer 2: Project Management and ICTD (available from http://www.unapcict.org/academy/pr).

Step 2: Translate your project outcomes into indicators and targets. The indicators and targets will be the basis for determining the kind of M&E tools and activities to use within specific time frames. Table 3 presents samples of outcomes, indicators and targets. There are three different types of indicators—input, process and output (IPO).

Table 3. Sample IPO indicators for different outcomes

Outcomes and time frame	Input indicators (targets)	Process indicators (targets)	Output indicators (targets)
Development of participants' ICTD knowledge and skills. For each series: 2 days. Across all series: 12 months. (Competency relevance)	Innovation on content of course materials to adapt to local needs. (Inclusion of local examples, good practices, local references)	Use of adult learning methodology. (Inclusion of hands-on, outdoor, problem solving activities in the workshop)	Retention of core principles in the module. (An average of 95% score on the post-test for retention)
Extent and quality of module implementation. 12 months. (Project management efficiency, effectiveness)	Marketing plan for universities and institutions in metropolitan areas. (Targeted information and communication materials for different kinds of universities – state, private, local, international)	Personalized marketing for specific universities. (10 site visits and 5 small lunch-style meetings for target universities)	Enrolment in the three modules. (65%-85% enrolment from target universities with each university enrolling at least 30 participants)

Indicators are critical areas in the project where you want to see concrete, observable, measurable results to prove that you are attaining (or not attaining) your project outcomes. These are critical areas that will inform you about the performance of the project. Each indicator specifies a concrete, observable, measurable target. In the above example, the indicators are in the areas of inputs (presence of innovation and marketing plan), processes (use of adult learning and personalized marketing) and outputs (retention scores and enrolment rates). These indicators have specific targets within a specified time frame. These targets will be monitored and measured across time to determine if the indicators are met (or not met) by the project. The level of attainment in these indicators and their respective targets will show you if you are going to attain your project outcomes along the levels of relevance, effectiveness and efficiency. The APCICT Monitoring & Evaluation Toolkit defines input, process and output indicators as follows:

- Input focuses on what and how resources are being utilized by a programme or project. This includes human resources, the training and expertise of programme staff that is brought in, and financial, physical and material resources such as training venues, etc.

- Process/Activity measures ongoing implementation and progress of the programme or project in

terms of activities, processes associated with the programme's delivery and the transformation of input into output.

- Output: Includes actual achievement of the desired results, behavioural changes in the baseline, and major milestones accomplished through the implementation of the programme.

For curriculum-related outcomes, indicators can be derived by identifying specific knowledge, skills and motivations/attitudes for each major competency. For specific knowledge outcomes, this may be broken down into three levels of indicators: comprehension, retention and application. Section 2.3 provides a more detailed framework for measuring and analysing learning outcomes. Other indicators may be used by different institutions depending on their requirements. An example of a learning outcome for Primer 1: An Introduction to ICT for Development is shown in Table 4.

Table 4. Sample indicators for learning outcomes

Learning Outcome	Comprehension Target	Retention Target	Application Target
Provide participants with the conceptual framework to understand the process of socio-economic development, and the role of information and ICTs in the development process	Apply the five core concepts in the ICTD framework in actual settings and local issues. Score of 15 out of 20 in the post-test.	Articulate the five core concepts and their respective elements and applications after the workshop sessions. Score of 15 out of 20 in the post test.	Create an action plan to share the five core concepts and its application to fellow participants back home.

Step 3: Define the M&E activities to measure your indicators and targets. Table 5 provides the basic content of an M&E Plan using the example in Table 3. An M&E Plan states clearly the sources of data and information that must be obtained to determine if the targets and indicators are attained (or not). For each data source, the kind or nature of data (qualitative or quantitative) that will be obtained must be specified. The method and time frame for data gathering are indicated next for each data source. It is equally important to indicate who will use the results from what kind of data. Finally, an estimate of the financial, logistical and human resources required to collect and analyse the data and information must be clearly projected and specified.

Table 5. Basic content of an M&E Plan

Desired outcome and time frame	Indicators (Targets)	Sources of data and information (Kind of data/ infor mation)	Method and time frame (Activities to measure baseline and progress)	Users of M&E results (Purpose)	Resource require ments to implement the activities
Development of participant's ICTD knowledge and skills. For each series: 2 days. Across all series: 12 months. (Competency relevance)	Input: Innovation on content of course materials to adapt to local needs. (Inclusion of local examples, good practices, local references)	Trainers' evaluation reports and interviews (qualitative data). Participants' evaluation survey (quantitative). Pre- and post-tests of participants (quantitative). Interviews of selected participants (qualitative).	Data collection of reports every end of Series. Interview of trainers after completion of instructional design and workshop. Survey, and pre- and post-tests distributed after each workshop. Random interview of 3-5 participants at each workshop.	Core faculty, resource persons and trainers for further improvement of modules and instructional design. Project mplementers and sponsors for project anagement.	USD 100 for design and reproduction of M&E tools. Fees for analysis and publication. 1 staff member to administer tools. 1 research assistant to interview and analyse monitoring reports.

Something To Do

Complete table 5 for the second outcome shown in Table 3 (Extent and quality of module implementation).

Step 4: Validate your M&E plan with important stakeholders, e.g. faculty, resource persons, selected participants, and other concerned actors who are interested in the results of the M&E. Validation is needed to ensure that: 1) you are getting the right data and information, 2) your results will be useful, and 3) your plan is realistic and do-able within the time frame provided for M&E.

Step 5: Once your M&E Plan is finalized, develop or access the appropriate measurement tools based on your research design or method. Part 2 will provide sample tools for the different possible areas and indicators in your M&E Plan.

Developing an M&E Plan using the project cycle may also be done using the project management cycle discussed in Primer 2: Project Management and ICTD.[3] The M&E templates in Boxes 5 and 6 may be used as a basis to produce an M&E Plan.

Evaluating Primer Series Roll Out Project using the PM cycle (A two-year project in University A)

Monitoring Template

	Target Input by Quarter	Actual Input by Quarter	Target Process by Month	Actual Process By Month	Target Outputs Per Year	Actual Outputs Per Year
Initiation						
Planning						
Executio n						
Control						
Closing						

Box 5. Sample monitoring template at different stages of project management

Evaluating Primer Series Roll Out Project using the PM cycle (A two-year project in University A)

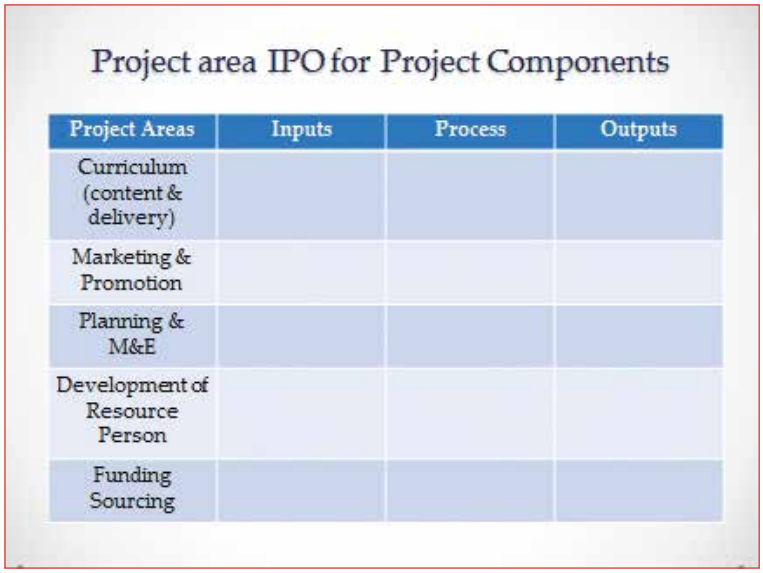
Evaluation Template

	Level of performance	Expenditure vis budget	Contribution to Outcome	Facilitating factors	Hindering Factors	Decision points & Action
Initiation						
Planning						
Execution						
Control						
Closing						

Box 6. Sample evaluation template at different stages of project management

A sample template for defining input-process-output indicators for specific project components in the implementation of the Primer Series is given in Box 7.

3 Maria Juanita R. Macapagal, Primer 2: Project Management and ICTD, Primer Series on ICTD for Youth (Incheon, UN-APCICT/ESCAP, 2013). Available from http://www.unapcict.org/academy/pr.



Project area IPO for Project Components

Project Areas	Inputs	Process	Outputs
Curriculum (content & delivery)			
Marketing & Promotion			
Planning & M&E			
Development of Resource Person			
Funding Sourcing			

Box 7. Sample template for defining IPO indicators

Other relevant project components present in the implementation of the Primer Series may be included. It is important however that outcomes are clear for each component.

Section 4: Sustaining the M&E of the Primer Series

You must be able to sustain the M&E of the Primer Series on ICTD for Youth in order to determine its relevance across time, topics and stakeholders. The data and information derived from trends and patterns across these elements will be the basis for effective innovations in the content and delivery of content, marketing and communication, and project management. It will also provide evidence-based information on the impact of the Primer Series as a development programme. Sustaining the M&E entails three factors (as outlined in the APCICT Monitoring & Evaluation Toolkit):

1. M&E results address issues and add value to users. Project stakeholders and executive sponsors will value the M&E of the Primer Series if the results are used for decision-making. nterest and commitment to allocate funds for M&E are usually provided if decision makers find value in what they get from the results of the M&E. For example, the results answer major questions and issues about the different aspects of the partnership and the Primer Series itself, or the results can provide direction and ideas on other possibilities that can benefit the organization and its stakeholders. This means that you must ensure that data and information of M&E are relevant to users; know the profile of the M&E users and what they need.

2. The M&E plan must ensure that activities are cost effective. M&E plan effectiveness shows that activities are able to produce target results and outputs in an efficient manner and without compromising the quality of the products. Some institutions do a cost-benefit analysis to assess if activities and investments are worth undertaking, and if outputs and benefits from such undertakings will provide a satisfactory return on investments.

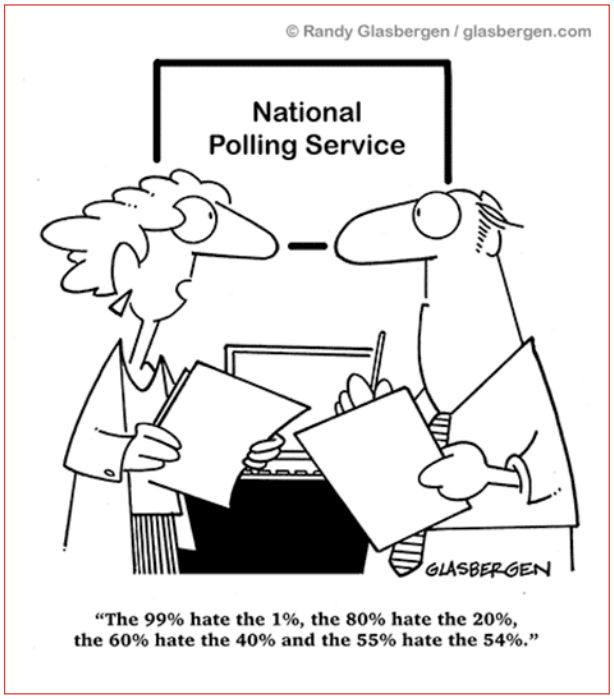
3. The M&E is anchored on your ongoing M&E system for other projects and programmes. You need not re-invent the wheel, especially if your organization has an ongoing M&E system. The integration of the M&E of the Primer Series will then be at the level of M&E instruments, activities and report dissemination.

For additional case studies on M&E used for ICTD courses, please refer to the APCICT publication, Monitoring and Evaluation Case Studies of the Academy of ICT Essentials for Government Leaders.[4] The cases are from APCICT partners who developed and implemented their M&E for the Academy of ICT Essentials for Government Leaders.

4 Ruth Rosario D. Gerochi and others, Monitoring and Evaluation Case Studies of the Academy of ICT Essentials for Government Leaders (Incheon, UN-APCICT/ESCAP, 2013). Available from http://unapcict.org/ecohub/monitoring-and-evaluation-case-studies-of-the-academy-of-ict-essentials-for-government-leaders.

Part Two
Monitoring & Evaluation Methods and Tools

Learning Objective: To learn applicable methods to monitor and evaluate the participants and the implementation of the Primer Series.



Section 1: Tools for participants and resource persons

- Measuring learning outcomes
- Framework for gathering and analysing results of learning outcomes
- Measuring the delivery of seminars

Section 2: Tools for implementers and external stakeholders

- Assessing the implementation of the Primer Series
- Assessing the content of the Primer Series
- Tools for external stakeholders

Section 3: Steps for analysing data and information

- Guide for quantitative analysis
- Guide for qualitative analysis
- Analysing the results of tools from Primer 1

The APCICT Monitoring & Evaluation Toolkit provides extensive discussion on methods and tools for data collection and analysis that can be adopted by the Primer Series. The type of data and information needed dictates the appropriate methods and tools that should be used.

Quantitative approaches put emphasis on collecting and analysing numerical data, and is concerned with measuring scale, range and frequency. It is highly detailed and structured, and results can easily be collated and presented through statistics. Quantitative approaches use descriptive and inferential statistics to analyse results from data gathering tools such as survey instruments, scorecards and rating scales. In the Primer Series, learning outcomes are measured quantitatively through multiple choice questions at the end of each chapter. Section 2.3 provides an example of how learning outcomes can be analysed using the tools provided for in the Primer Series. The result of the statistical analysis will provide feedback on whether or not the learning outcomes and objectives have been attained.

Qualitative approaches are more subjective in nature and are used in understanding, examining and reflecting on the less tangible aspects of research, such as values, attitudes, opinions, ideas, beliefs and experiences. This most often uses interviews, focus group discussion and case studies, and is usually more difficult to interpret and present findings. In the Primer Series, an area of study that would benefit from qualitative research would be that of understanding how ICTD topics can be contextualized in local situations. There are reflection questions provided for at the end of each chapter in the Primer, and an extensive set of questions is also offered in Section 2.2.

Mixed Method approaches are used when quantitative data needs to be further expounded and corroborated by qualitative data. This is a common approach and provides back up for one set of findings using one method of data collection by another. Some sample tools are provided below.

For the Primer Series, there are three key result areas to be measured: 1) learning outcomes, or how well learners have gained the knowledge, skills and attitudes; 2) performance outcomes, or how well the project is being implemented; and 3) interaction effects, or what unintended consequences have surfaced as a result of the project implementation.

Figure 2. What to measure in the Primer Series

The sections below discuss the M&E methods and tools applicable to the Primer Series by looking at four different perspectives: participants, resource persons, implementers and external stakeholders.

Section 1: Tools for Participants and Resource Persons

1.1 Measuring Learning Outcomes

Learning outcomes are statements of what a learner must be able to demonstrate as a result of an educational or learning exercise. In Primer 1: An Introduction to ICT for Development,[5] learning outcomes are expressed at two levels—project level and course level. The project learning outcomes are broad goals that encompass what the different courses can collectively achieve. Course learning outcomes are specific to the topics covered in the Primer. Table 6 identifies learning outcomes and objectives at the project level and course level, as provided in Primer 1: An Introduction to ICT for Development.

Table 6. Primer 1 outcomes and objectives at the project level and course level

	Learning Outcomes	Learning Objectives
Project Level	• Participants will be equipped with the basic awareness and knowledge of the potential of ICT for promoting socio-economic development, and be able to leverage this potential in whichever fields they decide to work in. • Specifically, this primer provides participants with: – Conceptual frameworks to understand the process of socio - economic development, and the role of information and ICTs in the development process. – New knowledge and skills to help in the effective planning, development, and implementation and management of ICTD initiatives.	The primer aims to: • Introduce the participants to basic concepts of ICTs and their role in the knowledge society, and in meeting the development goals of a society. • Foster a better understanding of how ICTs can be applied to achieve social and economic development in different development sectors, and provide case studies of successes and failures. • Provide a development-oriented framework for managing and evaluating ICT-based and ICT-supported projects and interventions in a range of social sectors.
Project Level	Learners will be able to understand: • Key concepts in human development • The basic elements of using communication for development • Ways of bridging the digital divide • ICTs and their strengths and weaknesses • Key concepts and trends in ICT for development	Introduce learners to: • The basic concept of human development • The link between communication and development • The concept of the "digital divide" • The definitions of information and communication technology (ICT) • The strengths and weaknesses of ICTs

5 Usha Rani Vyasulu Reddi, Primer 1: An Introduction to ICT for Development, Primer Series on ICTD for Youth (Incheon, UN-APCICT/ESCAP, 2011). Available from http://www.unapcict.org/academy/pr.

Course (Section) 2 – Applications	Learners will be able to: • Understand the application of ICTs in specific areas • Be able to identify cases of ICTD in their own country and context • Be able to analyse such identified cases in terms of success and failure	Introduce learners to: • The concept of direct and indirect applications of ICT • Case studies in the use of ICTs in various development sectors
Course (Section) 3 – Management	Learners will be able to: • Understand why ICTD projects are different from other development projects • Understand the reasons why ICTD projects may succeed or fail • Understand the importance of integrated planning as a process in ICTD projects • Understand elements of managing partnerships, time and people • Apply the basics of ICTD project evaluation methodologies	Introduce learners to: • The issues and challenges in the implementation of ICTD programmes and projects • Various key elements of each of the challenges • Key challenges in project management • The value of change management in ICTD project management • The basics of ICTD project evaluation

A good measurement of learning outcomes should determine how well participants are benefitting from a learning experience and exercise. Equally important is how results are used as inputs to improve the delivery of curriculum and instruction. From a resource person's perspective, result should tell him/her what is working and what is not in the course and in the manner it is taught. For the course administrator or project implementer, the results provide information to further improve the quality of service provided.

Approaches to measuring student learning outcomes can generally be classified in two ways: 1) direct measures, which look at the actual work of participants to provide evidence of actual performance, and 2) indirect measures, which assess secondary information on student learning. The indirect measures do not rely on actual samples of participants' work. When used together, the two measures provide a richer perspective for understanding participants' learning and performance. For example, a course examination (a direct measure) showed low scores for the majority of the participants, and a course evaluation survey (an indirect measure) could reveal why.

Among the common tools to directly measure learning outcomes are tests (pre- and post-tests), embedded assignments and course activities. Related fieldwork activities, culminating projects, group projects, student recitals and exhibitions, homework assignments, and comprehensive exams are examples of course activities. Indirect measures can be in the form of alumni surveys, exit interviews, focus group discussions, and curriculum and syllabus audits.

In Primer 1: An Introduction to ICT for Development, at the end of each major topic or chapter, three types of learning assessments are introduced: 1) a Case Study (qualitative) that applies key concepts and principles in a real-world programme or project, 2) a Practical Exercise (qualitative) that encourages readers to think reflectively on issues presented, and 3) a Test Yourself (quantitative) set of multiple

choice questions. The first two are excellent jump-off points for discussion among participants and faculty to determine the level and depth of how well participants are able to grasp the lesson. These three course-embedded assessments can collectively provide information on the level of attainment of the learning outcomes.

In the first course of Primer 1: An Introduction to ICT for Development), there are four Test Yourself exercises that can be found on pages 33, 52, 66 and 75. Each exercise asks five multiple choice questions. The participants' scores can be presented in three possible ways—by exercise, by student batch, or by resource person. Results presented in these different ways can all contribute to determining the level of achievement of outcomes, and how the course or module can be further improved. The case samples in Section 2.3 shows how test results can be analysed.

1.2 Framework for gathering and analysing results of learning outcomes

For the resource person to evaluate the level of discussion and the achievement of learning outcomes, a set of guiding questions is introduced in Table 7. Notice that the learning outcomes of the courses in the Primer Series are mostly addressing the cognitive domain. For an effective evaluation of a learning exercise like a guided or structured classroom discussion, Benjamin Bloom's Six Levels of Cognitive Domain is a recommended framework to use.

The questions in Table 7 can be used by the resource person or a third-party evaluator as a guide in evaluating student learning through a classroom discussion.

Table 7. Blooms' six levels of cognitive domain

Level	Description	Questions for evaluating learning
Knowledge	Recalling or remembering something without necessarily understanding, using or changing it	1. How many of the participants actively participated in the discussion? How many did not? 2. What key concepts and principles surfaced in the discussion? What key concepts and principles that were introduced in the lesson and in the exercise did not surface in the discussion? Why so?
Compre-hension	Understanding something that has been related without necessarily relating it to anything else	
Application	Using a general concept to solve problems in a particular situation; using learned materials in new and concrete situations	3. What related concepts/ideas that were not part of the course were introduced by the participants? 4. Were the participants able to relate key concepts and principles to personal observations and experiences? 5. Were the participants able to process/analyse their related personal observations and experiences using the newly acquired lens? If so, how well?
Analysis	Breaking something down into parts; may focus on identification of parts or analysis of relationships between parts, or recognition of organization principles	

Synthesis	Creating something new by putting parts together to make a whole	6. What factors facilitated the participation of participants in the discussion? 7. What factors hindered the participation of participants in the discussion?
Evaluation	Judging the value of materials or methods as they may be applied in a particular situation; judging with the use of defined criteria	

1.3 Measuring the Delivery of Seminars

Equally important as measuring the learning outcome, is measuring the manner by which courses or seminars were delivered. This is usually done in the form of a course/module evaluation survey. This is one form of an indirect measure of participants' learning outcomes. The participants' responses in the survey can provide context to better understand their performance in other course outcomes assessment, like tests and graded recitations.

The APCICT Monitoring & Evaluation Toolkit introduced a Module Evaluation Form in Annex C (pp. 106-107) that attempts to measure participants' assessment of the overall conduct of the training, the design of the training course and the trainers' performance. This is a way to get immediate feedback from participants on how well the training was conducted. Table 8 outlines other aspects of the module delivery that can be assessed using the five REESI levels of evaluation discussed in Section 1.1 (relevance, effectiveness, efficiency, sustainability and impact). An additional column for comments is provided to gather qualitative responses. This survey questionnaire is an example of a tool employing mixed method approach to measurement. The answers through the scales are quantitative, and the spaces for comments generate qualitative data.

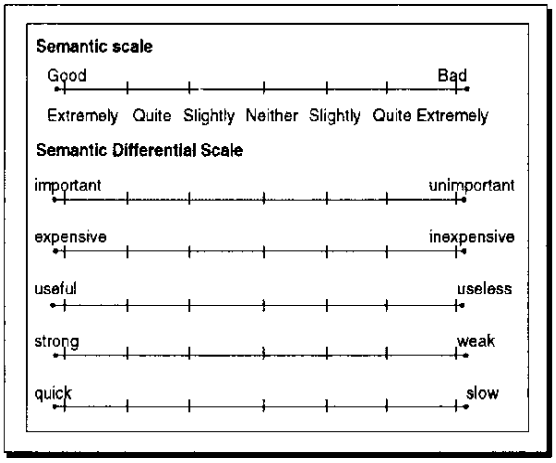


Figure 3. Semantic differential scale

While most survey questionnaires attempt to quantify the level of satisfaction (to certain aspects of training), or agreement (to a statement describing elements of a training), surveys can also be formulated to provide qualitative information, by using a semantic differential scale, as illustrated in Figure 3.

In Table 8, participants are asked to circle the number that indicates their degree of agreement with each statement: 1 Strongly Disagree, 2 Disagree, 3 Neutral, 4 Agree, and 5 Strongly Agree. They are also encouraged to provide their comments in the items with answers they want to further explain.

Table 8. Sample survey tool on the delivery of the Primer Series

Relevance of Topics						Comments
The different topics helped me understand social issues that affect me	1	2	3	4	5	
The framework provided made me realize how different development factors are interrelated	1	2	3	4	5	
The inputs on ICTD are useful for my course back home	1	2	3	4	5	
The course can help me develop actual projects back home	1	2	3	4	5	
Management of Learning						
The time used in the conduct of the seminar was well managed	1	2	3	4	5	
All topics were given sufficient time for discussion	1	2	3	4	5	
The flow of topics was logically organized	1	2	3	4	5	
The learning methods and tools used were appropriate for the topics	1	2	3	4	5	
The class size was manageable, and allowed and invited interaction among participants	1	2	3	4	5	
Participants were allowed and encouraged to participate in discussions	1	2	3	4	5	
The sample cases were relevant to my own context	1	2	3	4	5	
Resource Person/Trainer						
The resource person had mastery of the subject matter	1	2	3	4	5	

The resource person was well prepared	1	2	3	4	5	
The resource person was able to keep the session interesting	1	2	3	4	5	
The resource person was able to respond to/handle participants' questions	1	2	3	4	5	
The resource person optimized the use of visual aids and learning materials	1	2	3	4	5	
Venue, Logistics and Training Support						
The venue was easily accessible to participants	1	2	3	4	5	
Logistical support was provided to participants	1	2	3	4	5	
Support staff was able to address participants' seminar-related concerns outside the scope of the resource person	1	2	3	4	5	

The responses to these questions can be further explored through a focus group discussion or an exit interview. A focus group discussion involves a small group of individuals who are selected from among the course participants. The participants may be randomly selected to avoid bias or they can be selected purposively using clear criteria for selection. They are brought together for the purpose of discussing in-depth their perceptions on how well the objectives of the course have been achieved and how the course was conducted. They can further validate and/or refute the results of the survey above. An exit interview, which is done individually, can elicit the same information.

Table 9 provides some guiding questions that can be used when conducting a focus group discussion or an exit interview.

Table 9. Sample guiding questions for focus group discussions or exit interviews

Areas for Evaluation	Guiding Questions
Achievement of Learning Outcomes	1. What did you find most useful in this Primer? Why? 2. What did you find least useful in this Primer? Why? 3. How might you apply what you learned in the Primer?
Course Delivery	1. What are the strengths of this course? 2. How can this course be further improved? 3. Would you recommend this course to others? Why or why not? 4. How can we further improve course delivery in terms of: a. Management of time b. Flow of topics c. Use of technology, learning aids and materials d. Resource person

Section 2: Tools for Implementers and External Partners

2.1 Assessing the Implementation of the Primer Series

Beyond the information provided by participants and resource persons on the achievement of learning outcomes and the delivery of courses and seminars, perspectives from implementers and external partners are equally important to determine the overall effectiveness of the roll out of the Primer Series. Methodologies that can be used for this purpose should be qualitative in approach, and thus includes focus group discussions, consultative meetings and interviews. A set of guiding questions provided in table 10 can be used.

Table 10. Sample guiding questions for implementers and external partners

Areas for Evaluation	Guiding Questions	Other Sources of Information
Marketing and Network Building	• How do participants learn about the Primer Series? What is the profile of the project participants? • Do you have a Marketing Communication Plan in place? How do you promote the project? Cite t ools, message, target audience, channel, and frequency/time of promotion.	• Marketing/ Communication Plan • Consolidated profile of participants • Stakeholder analysis

	• What are the results or effects (positiveand negative) of your promotion strategies and activities? What factors influenced the results, and why? • Do the promotion/marketing tools match the profile of project participants? • What resources are utilized by the promotional activities for the Primer Series? Are these resources sufficient to achieve your targets? Are these resources effectively used? • Who or what organizations have become partners/ stakeholders as a result of this project? In what ways do they contribute to the project, e.g. as end users or service providers? In what ways can they be tapped to advance the project cause? • What institutions/projects in the same market offer a similar project? How can they be tapped to advance the project cause?	
Adoption of the Primer Series in Partner Organization	• What and how many partner organizations have adopted the Primer Series as part of their teaching and learning materials? • In what manner is the Primer Series adopted in the curriculum or course offering? • What is the process used for adopting the Primer Series in your curriculum or course offering? • What are results of such adoption on the learners? On the partner organization?	
Innovations in Adaption and Implementation	• What recent innovations have been introduced in the content and delivery of the Primer Series? What are the reasons behind these innovations? • How have the stakeholders reacted to these innovations? • What has been achieved as a result of these innovations? What has not been achieved? What are the unintended consequences of these innovations? • Who supports these innovations? Who opposes these innovations? Why? • What factors have facilitated/hindered the support for these innovations? • What other innovations can the project introduce?	
Funding and Resource Support	• What are the cost items for the project? What is their respective percentage share against the total budget? What percentage goes to: - Professional fees of resource persons - Maintenance and cost of venues - Production of course materials - Acquisition of training equipment - Marketing/Promotion and network building - Personnel cost (excluding resource persons) • What is the average amount spent per cost item for each participant? • What is the ideal class size per course? • What is the ideal length of delivery per module? • What is the average cost per module?	• Financial Statements

The qualitative questions pertaining to adoption and innovation can be completed through the regular M&E system of partner organizations like in university courses. A case of such adoption is presented in Box 8.

A university degree in environmental science includes a specific subject on the introduction to computer modelling and simulation. Two learning sessions are devoted to the role of ICT in disaster management. For these sessions, the instructional design uses Primer 3: ICT for Disaster Risk Management as reference and as required reading for students.

The integration of the Primer Series was championed by a senior faculty member who was invited to an orientation seminar on APCICT's Primer Series on ICTD for Youth. After attending the seminar, the senior faculty member proposed to the Chairperson of the university's Department of Environmental Science that the Primer Series be integrated as reference material and required reading in the Department. Upon review and approval from the Chairperson, the faculty members for the subject on ICT and environment were provided an in-depth orientation on Primer 3 content so that they can adjust the instruction design for the subject effectively. The department used the regular student evaluation forms and tests to measure the level of student comprehension on the topics.

The APCICT partner organization went to the department to conduct further evaluation on the adoption of the Primer Series in the university course. Several areas were assessed including the process of adoption by the department, the process of integration into the department's

Box 8. Sample case implementation

2.2 Assessing the Content of the Primer Series

A set of guiding questions for implementers and content designers is introduced in Table 11 to evaluate the content of the Primer Series.

Table 11. Sample guiding questions for evaluating the content of the Primer Series

Areas for Evaluation	Guiding Questions
Relevance to the Local Context	• Are the key concepts and principles translated into local context? How has this facilitated/hindered the learningprocess? • What specific concepts and principles have been translated into local context? What have not been translated, and why?
Innovations in the Curriculum Content	• What innovations have been introduced in the curriculum content? • How have these innovations facilitated learning? • How have these innovations hindered learning? • How receptive are the participants to these innovations? • What process was followed in order to introduce changes in the curriculum content? How long did the process take to complete? • Does the module allow for introduction of recent related theories and principles? • Can the current capacity of the project be increased should demand increase? What is the current capacity of the project?

2.3 Tool for External Stakeholders

External stakeholders are important actors in further strengthening the Primer Series as a programme or as a project of the partner. It is useful to identify who these are and ensure that they are constantly engaged in providing you with valuable inputs and feedback. One-on-one interview with these stakeholders will be worthwhile. The table below provides recommended questions using the REESI levels discussed in Section 1.1.

Table 12. Sample questions for external stakeholders

Guiding questions for assessing the implementation of the Primer Series as a project
• Relevance - To what extent are the project goals aligned with the needs of the community? - Does the content of the curriculum address the learning needs of the participants? • Effectiveness - To what extent does the project meet its set goals and objectives? • Efficiency - Is the project able to produce the same results using the least possible cost/resource? • Sustainability - To what extent has the project contributed to sustainable behaviours and practices of the participants and their communities? - Are there institutions that can and are willing to continue to implement the project/curriculum? - Are there any unintended positive or negative consequences that have come out from the project? - What procedures, policies and systems are in place to ensure the sustainability of the project? • Impact (Synergy) - What other outputs/outcomes have surfaced as a result of this project? - How has this project complemented or supported other existing programmes/projects or initiatives?

There is a wide variety of tools for data collection that can be used depending on the purpose and situation. A matrix of data collection tools and their appropriate use is provided in Annex A.

For all responses to interviews and focus group discussions provided in the tables above, a thematic analysis is recommended. See Section 2.3 to guide you in your analysis. Other forms of narrative analysis may also be used depending on the purpose of the information. Eventually, results of all analyses, for both quantitative and qualitative information, must be presented effectively, and this will be discussed in Part 3.

Section 3: Steps for Analysing Data and Information

Analysing data entails organizing and making meaningful interpretation of these data. Data analysis derives information that can be the basis for decisions regarding the direction of the project. This section provides a guide for analysing both quantitative and qualitative data and information.

3.1 Guide for Quantitative Analysis

Step 1. A pre-cursor to analysing data collected is reviewing them. By reviewing the data, outliers or possible mistakes and basic patterns or trends can already be identified.

Step 2. The next step is to determine the appropriate method or tool to use. The following are the most commonly used methods for analysing numerical data:

- Percentage – Proportion of total cases falling into a category.
- Mean – Average of set scores. This is the most commonly used statistical method to describe central tendency. It is more accurate than providing a single score to represent the group scores. However, this measure is not advisable if a few scores in the group are extremely high or extremely low because these scores will influence the mean such that it will not provide you with an accurate representative score.
- Median – Middle value in an ascending list of scores. This measure is used when there are extreme scores in the group.
- Mode – Most frequent score. This is best used for data that are measured on nominal scales, and items that cannot be divided, such as number of students.
- Standard deviation – Average distance of scores from the mean. This measures the variation of scores from the mean or the score that represents the group scores. It shows whether the scores within the group are near (clustered together) or far from each other (scattered). If the scores are wide apart or far from the mean, it may indicate variability in the performance of participants in a test. A qualitative tool can be used to explain the reason for such variation.
- Percentile – Percentage of a distribution of scores that is equal to or below a specified value.

Step 3. Interpret the results of the analytical tools applied. Interpretations may be reported using simple and clear narratives with accompanying charts, graphs and smart art to emphasize critical points effectively. Interpreting results will include describing the meaning of the standard deviation derived, comparing results from different data sets, looking for trends and patterns across different data sets, and synthesizing all the different findings.

Step 4. Provide additional information to validate or refute the results of the statistical tools. Additional information will come from the thematic analysis of focus group discussions, interviews, case studies and practical exercises.

Step 5. Summarize the overall results and provide your recommendations to specific stakeholders. Part 3 will discuss the presentation of results more extensively.

For more information on statistics and interpretation of statistical tools and results, you may want to consult: Frederick J. Gravetter and Larry B. Wallnau, Statistics for the Behavioral Sciences, Eighth Edition (Cengage Learning, 2007).

3.2 Guide for Qualitative Analysis

The appropriate approach for analysing qualitative data is by using a thematic analysis. Content analysis may also be used if the purpose is to convert the qualitative narratives into quantitative data. The steps for thematic analysis are provided below.

Step 1. Document the actual qualitative responses of participants on important case or practical exercise. The resource person or project implementer may choose specific cases or exercises to be documented. Randomly selecting the cases and batches for documentation is recommended to avoid bias in determining what to evaluate.

Step 2. Organize documentation of cases according to preferred data cuts, e.g. by topic, gender or class/batch.

Step 3. Conduct a thematic analysis on the qualitative responses. Performing a thematic analysis entails going through the document several times and determining the common themes or topics emerging from the documents or data. These themes are identified and clearly articulated. Similar themes may be further clustered to form higher themes or global themes. The number of participants expressing ideas within the theme can be indicated to provide information on the magnitude of agreement between participants. A sample thematic analysis is provided in Table 13.

Table 13. Sample responses and themes for thematic analysis

Recurring answers to the Practical Exercise (Application of ICTD in universities – pros and cons)	• ICTD is used to plan university's outreach projects (5 participants) • We can use ICTD even outside the university (3 participants) • Older faculty members are not too keen on ICT and its use in classrooms (3 participants) • Younger faculty members are ICT savvy and use this to make our coursework more interesting (5 participants) • Participants' perception of ICT is limited to social networking (5 participants) • Participants find it difficult to connect ICT with more pressing social and economic issues because they are focused on entertainment (2 participants) • Parents need further education on ICTD and its relation to participants and our coursework (3 participants)

Themes	• Theme 1: Participants find different levels of ICTD application that are relevant to their student life • Theme 2: Degree of acceptance and use of ICT is affected by age of faculty members • Theme 3: Parents require more information on ICTD and its relevance to the university course • Theme 4: Participants acceptance and use of ICT in development is influenced by their current lifestyle
Global Themes	• Global theme 1: Factors that will positively influence the participants' continued use of ICT in addressing development issues • Global theme 2: Factors that will negatively influence the participants' acceptance and use of ICT for development

In Table 13, participants' responses to the Practical Exercise was documented. The transcription was reviewed several times to identify the different topics raised by the participants. The number of participants raising similar topics was indicated. These topics were clustered into themes that capture the main ideas of the topics. These themes were further clustered to form a higher level theme, the global theme, which serves as the topic title of the major information derived from the themes and data.

In the sample, participants' responses to the Practical Exercise generated four themes that point to participants' perceptions about the course: 1) it is relevant to their life as students, and 2) there are certain blocks that need to be addressed if they are to use ICTD effectively.

The project implementers and content developers can use this information to develop complementing interventions or activities to address these blocks. The information can also be used to improve the Primer content, course delivery and marketing messages.

3.3 Analysing the Results of Tools from Primer 1

There are four types of analysis that can be done for all data and information measured in the content and implementation of the Primer Series: 1) interpreting the results of quantitative and qualitative tools, 2) comparing data and information between data sets (before and after test results, gender, age, schools, membership in school organizations, etc.), 3) determining trends and patterns in the different results, and 4) synthesizing the results from different sources to form a conclusion. In this subsection, the measurement tools in Primer 1 will be analysed using the four types.

Table14 presents a sample data on results of a post-test taken by different batches of participants. It shows how class size affects test results.

Table 14. Sample results of Test Yourself Exercise 1 for four batches

Test Yourself Exercise 1 (Page 31)								
Batch No.	Class Size	Faculty In-Charge	Participants' Scores					
			0	1	2	3	4	5
1	25	X	0 (0%)	1 (4%)	4 (16%)	7 (28%)	5 (20%)	8 (32%)
2	30	Y	…	…	…	…	…	…
3	40	X	3 (7.5%)	9 (22.5%)	13 (32.5%)	5 (12.5%)	6 (15%)	4 (10%)
4	35	Z	1 (3%)	5 (14.3%)	10 (28.5%)	5 (14.3%)	9 (25.7%)	5 (14.3%)

For batch 1 in a group of 25 participants, eight participants or 32% of the class earned a perfect score of 5, five participants or 20% of the class had a score of 4, seven participants or 28% of the class had a score 3, and so on. To allow comparison, the different class size of each batch is given, and the number of participants earning a particular score is expressed in percentage against the class size. From the data presented, it can be concluded that as the class size increases, the number of participants earning high scores decreases. With more data, a clearer pattern can be established that can lead the project implementers to determine the ideal class size for the course.

In table 15, batch 1 participants' scores in four Test Yourself exercises of Primer 1: An Introduction to ICT for Development are plotted. Only Resource Person X handled the entire course, and the class size was at 25 from the start until completion of the course.

Table 15. Sample results of batch 1's Test Yourself exercises

Batch 1 (25 participants)							
Test Yourself Exercise	Resource Person	Participants' Scores					
		0	1	2	3	4	5
1 (P33)	X	0	1	4	7	5	8
2 (P52)	X	0	2	5	3	7	8
3 (P66)	X	1	3	7	4	5	6
4 (P75)	X	1	5	10	2	3	4

Scores for the Test Yourself Exercise 4 were lowest when compared with the scores of the same participants in other exercises. The resource person may want to compare the above results with other batches led by other resource persons, and if scores are consistently low, this may mean that the topics covered by the test are difficult to understand. The resource person may then need to adjust the teaching methodology to facilitate easier and better comprehension of the subject matter.

Table 16 provides the scores for batch 1 and batch 3 participants in four Test Yourself exercises in Primer 1: An Introduction to ICT for Development. Batch 1 had 25 participants, while batch 3 had 40. To analyse the performance of both batches per exercise, the mean scores were computed. The mean scores of batch 1 in all four exercises, is higher than the mean scores of batch 3. Batch 3 has the lowest mean score in exercise 4, at 1.425, and batch 1 has the highest mean score in exercise 1, at 3.6. The results in table 16 corroborate with what was concluded in previous data: That a smaller class size yields better scores. Moreover, exercise 4 yields the lowest scores for both batches when compared with their other respective tests. This is a possible indicator of the level of difficulty of the topic.

Other information can be derived from Table 16. For instance, as the course progresses the scores of both batches drops. This may be indicative of the level of effort exerted or the level of mastery of the faculty member in some topics of Primer 1: An Introduction to ICT for Development. It may also indicate that the level of difficulty of the course is increasing as the topics progress, and participants are not able to cope with such level of difficulty. This can suggest further innovation in learning or teaching methodology to ensure better comprehension. It can also point to a need for better training and/or selection of resource persons or faculty members.

Table 16. Sample results of Test Yourself exercises for batch 1 and batch 3

Faculty X									
Test Yourself Exercise	Batch No.	Batch Size	Mean Scores	Participants' Scores					
				0	1	2	3	4	5
1 (P33)	1	25	3.6	0	1	4	7	5	8
	3	40	2.55	1	8	13	8	6	4
2 (P52)	1	25	3.56	0	2	5	3	7	8
	3	40	2.475	2	8	13	8	4	5
3 (P66)	1	25	3.16	1	3	7	4	5	6
	3	40	2.425	2	7	14	9	5	3
4 (P75)	1	25	2.52	1	5	10	2	3	4
	3	40	1.425	4	6	13	4	2	1

The Case Studies and Practical Exercises are good interactive learning exercises that can demonstrate how well participants grasp key concepts and principles introduced in the course. Resource persons can use these available exercises for classroom discussion. Immediate, on-the-spot responses to these exercises will inform the faculty or resource person if the participant understands the specific topic being discussed in class. For a more comprehensive evaluation of the content of the Primer, undertaking a thematic analysis of qualitative responses across batches is needed. Steps for conducting thematic analysis was discussed in Section 2.2.

For both quantitative and qualitative results, you must be able to derive information by answering the following questions:

- What is the data telling us about the relevance of the project for our target participants?

- What is the data telling us about how effective and efficient we are about the content and delivery of the Primer Series?
- What aspects of the Primer Series (content and delivery) are creating further value for stakeholders? How can we capture these better so that we can institutionalize these in the project?
- What aspects of the project must we further strengthen to ensure that we attain the desired outcomes?

Part Three
Reporting Monitoring & Evaluation Results

Learning Objective: To know the approaches to report the M&E results effectively to different stakeholders.

Section 1: Determining the profile of M&E stakeholders

Section 2: Reporting important data and information from the Primer Series M&E results

Section 3: Presenting M&E results

Section 1: Determining the Profile of M&E Stakeholders

Results derived from your M&E inputs and activities will only be relevant if these are effectively utilized by your project stakeholders. Your M&E Plan must be able to identify these stakeholders and how they will use the results of your M&E. Determining their decision-making needs and learning style will help you focus the information you will provide to specific users of M&E results. Your results will not be effectively used if you provide a full technical report of 120 pages to a faculty member who is so busy and who is only interested to know about the content and delivery feedback from participants. A project sponsor will benefit more from a three-page executive summary, which highlights main areas that will help him/her decide if further funding is required and in what areas.

Specific information is required from and about your project stakeholders so that you can customize the M&E report to their specific needs and requirements. There are three important areas that must be known as part of profiling stakeholders for the Primer Series:

1. Level of knowledge of ICT and its role in development. This will enable you to customize the marketing, information and learning materials to the level of awareness, appreciation and mastery of stakeholders.
2. Degree of openness to innovations in the delivery of development projects, such as the use of ICT in project management and disaster preparedness. The information provided in this area will help in calibrating how to promote and convince stakeholders on the relevance of using the Primer Series as part of their coursework or course offering.
3. Level of openness to participating in the different processes to implement the Primer Series in their respective organizations. For stakeholders who are already convinced about the role of ICT in development, and they have a certain degree of knowledge and mastery on the topic, it is important to determine if these stakeholders will go the extra mile to perform other functions in order to ensure that the Primer Series is adopted and sustained in the organization.

Something To Do

Table 17 provides a template for creating a stakeholders' profile. Use the table to provide information about each stakeholder. A sample is provided for participants and faculty members. A standard listing of stakeholders is also provided in the table as a starting point for developing a summary of helpful information about your project stakeholders. Feel free to modify the template as required.

Table 17. Stakeholders profiling

Stakeholder	Profile and Requirements	Use of M&E Results	Type of Reporting
Participants	Busy and on-the-go. Requires short but concise information packaged in creative style (like social network pages). No long and technical reports. Focus information on what they need and like to know	Like and need to know how other participants view the course, how faculty assesses them, and what the university thinks about the Primer Series vis-à-vis the regular coursework at university. They will use the M&E results to convince other student leaders.	Posts on social network where they are members. Dashboards and/or Powerpoint style pages. Limit to 2-3 pages, with smart art, graphics and charts.
Faculty members, resource persons, trainers	Requires strong evidences (reliable and valid data and information). Will need more context and explanation, e.g. what factors affected the performance of participants.	Will use M&E results to further modify and innovate instructional design and specific content areas of the Primer Series. Will use feedback to improve/ retain specific learning methodologies. Results will confirm and affirm their effectiveness as faculty and resource persons.	Short, well-written manuscripts using tables and charts to compare pre- and post-tests results, and trends across data sets (gender, age, grouping, etc.) Report must be fully cited with references. A brief Powerpoint presentation will be needed to get immediate feedback on the results.
Project implementers			
External networks, partners			
Project sponsors			

Section 2: Reporting Important Data and Information from the Primer Series M&E Results

Your M&E will have different levels and kinds of results. It is always best to organize your report so that the presentation of results can be more effective and efficient. In general, the M&E report must be able to show the following data and information:

- Outcomes envisioned by the Primer Series on ICTD for Youth, in general and in particular (to the local context).
- Methodology – Different approaches used in sampling, data gathering and analysis, in ensuring reliability and validity, and in ensuring ethical practice in the research process.
- Results – The description of data and information obtained by the different M&E tools and activities along the three indicators (input, process, outputs). The results may be further presented by:

  Respondents – Participants, faculty, implementers, external partners
  Data sets – Gender, age, university, year level at university
  Nature of data – Quantitative, qualitative results
  Direction of data and information – Positive, negative, non-directional (recommendations, suggestions, opinions)
- Discussion – The analysis of the results. Analysis may be presented through one or all of the following:

  nteraction effects – To explore the dynamics and relationships of obtained data and information and how the different results affect or interact with one another, e.g. interaction effects of gender with university, utilization of specific teaching styles with increase in next enrolment, topic in Primer Series with feedback on content innovation/adaptation and faculty
  Comparison – To provide comparative analysis along specific factors, e.g. before and after, across time frame, across data sets, direction of data (negative-positive)
  Trends and patterns – To reveal the recurring similarities or differences across specific areas of concern, e.g. perceptions of participants, effects of innovation on curriculum, reaction of external stakeholders on the Primer Series, reasons for delay or negative feedback from resource persons
  Implications or possible consequences to the project in the areas of relevance, effectiveness, efficiency and sustainability
- Recommendations – Specific actionable points for specific stakeholders on possible areas:

  Curriculum
  - Content – Further innovation and adaptation to increase relevance
  - Learning/teaching approaches – Improving and retaining styles and approaches proven effective
  - Selection of participants
  - Selection and training of faculty and resource persons
  - Learning materials and technology

  Project management
  - Marketing and expansion of networks and client-base
  - Planning and M&E
  - Resource generation and management
  - Staff morale and support

The presentation of results, discussions and recommendations must be well organized. A logical flow of facts and ideas from the presentation of results to the discussion of results will help your reader appreciate the importance of the project and the M&E results. It is helpful to create an annotated outline before writing up the M&E report. The flow from results to discussion to recommendation follows the question logic below:

- What did we find out?
- What do these findings tell us about the performance of the project and its different parts?
- What can we do concretely as a next step based on these findings?

Section 3: Presenting M&E results

Your results can be presented in different ways depending on the audience or reader, and your purpose for presenting the results to them. The following are suggestions on how to present the results for specific purposes:

- Marketing the Primer Series on ICTD for Youth to participants and university officers – Short and colourful information materials with complete information but succinctly written using words that catch attention (words that create impact on the reader) and are commonly used by them (avoid jargons). Infographics, Powerpoint presentations and well-crafted brochures may be best for this target audience. Results are presented as evidences on the relevance and effectiveness of the project and its content.
- Faculty members, module developers – Technical reports in the form of short manuscripts. Results are presented fully with analysis and recommendations that confirm current content and teaching method and/or help to improve those aspects.
- Sponsors and other external supporters/partners – Dashboards or storyboards that present the desired outcome of the project and how the results show the progress toward these outcomes.
- Project implementers – Full technical report but well written. Results must detail every aspect of project performance, while analysis and recommendations must clearly indicate how the project can be further strengthened and its positive results sustained.

Table 18 provides possible ways of organizing the results for specific stakeholders, indicators and tools.

Table 18. Ways of organizing data and information

Indicator: Tool, nature of data	Presentation of data and information	Possible stakeholders and purpose
Output indicator for knowledge gained: Pre- and post-test for participants, quantitative data	• Dashboards or Powerpoints with table form presentation to compare pre- with post-test results (scores) • Pie charts to present summary of each data set, by gender, university, age, year level at university • Comparative analysis in short one or two sentences	Participants, faculty, sponsors, external partners (possible takers of courses) Can be used as marketing material, and quick feedback for action planning
Output indicator for effectiveness of delivery: Interview with selected participants, qualitative data	• Infographics, dashboard or storyboard • One page brief showing result and discussion of themes from the interviews • Emphasize positive and negative themes, themes that recommends/ suggests action steps, and/or themes predominant in one gender or university or age • Analysis and recommendations in another one-page brief	Project sponsors and external partners, faculty Can be used as basis for increasing support in specific areas of the project
Outcome indicator for relevance of the project to local context and needs of participants: Mix of quantitative and qualitative data	• Table showing comparisons of the "before and after" aspects of the project (using both quantitative and qualitative data), e.g. participants' performance, enrolment rate, feedback from faculty and participants on applicability of topics and skills, cost of delivery of project, etc. • Emphasize feedback from major stakeholders and partners of the project • Analysis in narrative form • Technical manuscript	Project implementers, content developers, core faculty For project improvement and development

Visual presentations. Written technical reports, executive briefs and narrative reports are important means to present the results of your M&E. Visual presentations are becoming more popular as powerful supplements to written report. Visual images present data and information, analysis and recommendations in creative and attractive ways that catch attention, increase comprehension and retention. These can also generate more affect-related responses from readers and listeners. Visual presentations may be done through the commonly used Powerpoint presentations, or through infographics (see Figure 4), dashboards or storyboards (see Figure 5), and photo documentation of actual activities and events (action-oriented photos rather than group pictures).

Infographics and dashboards or storyboards are creative and visual presentation of important messages

to address specific purposes. These use elements of graphic design to convey data and information. For the M&E results, infographics and dashboards can capture in one snapshot important information: The project objectives, participants, key results and analysis of results. The visuals must supplement existing narratives or written reports. They are used to summarize and highlight important message.

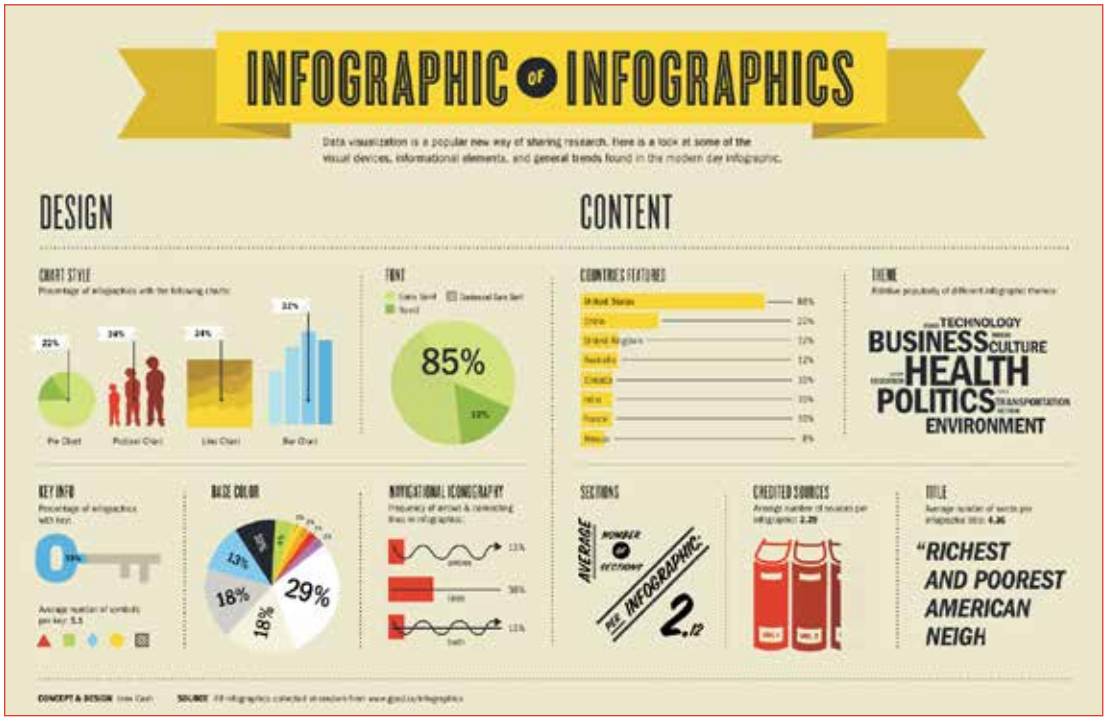


Figure 4. Example of an infographic

Source: Cash Studios, Infographic of Infographics. Available from http://cashstudios.co/Infographic-of-Infographics.

Figure 5. Example of a dashboard

Source: http://www.conceptdraw.com/samples/resource/images/solutions/dashboards-&-kpi/Facebook-Dashboard-Sample.png.

Annexes

A. Tools for Data Collection and Their Appropriate Use

Data Collection Type	Description	Appropriate Use	Advantages	Disadvantages
Questionnaires	• A pre - determined list of questions that are structured and/ or open-ended • Can be distributed in print form or electronically	• Large sample size • Geographically dispersed samples • Useful if sample has e-mail access and is comfortable with online surveys	• Can reach many in a short time • Relatively cheap if Internet is available • Can save time • Allow analysis of large sets of results	• Generally a low return rate • Long delay in return of questionnaires • Unreliable mailing system • ICT access could be limited
Face-to-Face Interviews	• Usually conducted as personal one-on-one interviews	• Where more in-depth information is required • With key stakeholders who are not likely to complete a questionnaire • Tend to be more open-ended to allow for flow of ideas from key stakeholders • Small sample size	• Provide a wealth of additional information that can inform more structured approaches, e.g. audits, checklists and questionnaires • Clarification can be sought immediately • Behaviour of interviewee can be observed	• Time-intensive • High cost • Analysis of the responses may be more complex • Need experienced interviewers
Telephonic Interviews	• nterviews conducted over the telephone	• May include conference calling with more than one person • Geographically dispersed samples • ICTs readily available and affordable	• Can save time where extensive travel may be involved	• Can work well with more experienced interviewers • Can be expensive and difficult where telecommuni-cations costs are high and lines unreliable
Workshops/Focus Groups	• Generally a facilitated discussion with several stakeholders • A separate record-keeper / observer is ideal	• Generally a small number of focused topics • Good facilitators are required, particularly if the group is diverse in background, power positions, education levels, etc. • Require good record-keeping	• Well-facilitated groups can provide rich inputs	• Underlying differences, even hostilities and mistrust, need to be understood and could be disruptive without good facilitation

Data Collection Type	Description	Appropriate Use	Advantages	Disadvantages
Content analysis of materials	• Analysis of key project documentation – electronic and/or hardcopy	• Typical content includes curriculum materials, policies, strategies, teaching resources, websites, lesson plans, project plans, progress reports	• Can provide useful background for any M&E activities	• Could be unreliable due to subjective analysis • Documentation may not always be available or accessible
Self-Assessment Reports	• Widely used as an M&E tool in education	• Assess self-perceived levels of proficiency, attitudes and perceptions	• Can be applied to large number of learners and teachers	• Can result in bias due to self -reporting
Work Samples Analysis	• Analysis of work produced by learners, teachers and administrators	• Tests productivity and proficiency levels, e.g. ICT literacy skills, presentation skills and administrative skills	• Can provide a quick snapshot of skills levels	• Can be relatively superficial and more appropriate for testing low-level skills
Activity Logs	• Records of specific activities that are kept by learners/teachers/ administrators	• Monitoring of computer access and levels of learning achieved (self-assessment)	• A useful indicator of levels of activity and productivity	• Self-reporting can be biased
Classroom Observations	• Assess teaching practices in a classroom situation	• Assessment of classroom layouts, instructional practices, learner-teacher interactions, learner behaviour, integration of ICTs, etc.	• Allows a hands -on assessment of classroom practices • Time intensive	• Time intensive • Inherent bias in that learner-teacher behaviour may be rehearsed for the sake of a good result from the observation

Source: Daniel A. Wagner and others, Monitoring and Evaluation of ICT in Education Projects: A Handbook for Developing Countries (Washington, DC, infoDev / World Bank, 2005). Available from http://www.infodev.org/articles/monitoring-and-evaluation-ict-education-projects.

B. Sample Monitoring Template (Covering Different Periods)

Indicators	Targets for 2013	Actual Performance as of:			
		Quarter 1	Quarter 2	Quarter 3	Quarter 4

C. Sample Monitoring Template (By Stages in Project Management, By IPO)

Indicators	Inputs (by Quarter)		Processes (by Month)		Outputs (by Year)	
	Targets	Actual	Targets	Actual	Targets	Actual
Initiation						
Planning						
Execution						
Control						
Closing						

D. Sample Template for Defining IPO Targets per Project Component

Project Components	Inputs	Processes	Outputs
Curriculum (Content and Delivery)			
Marketing and Promotion			
Planning and M&E			
Development of Resource Person			
Funding Source			

E. Sample Evaluation Template

	Level of Performance	Expenditure vis Budget	Contribution to Budget	Facilitating Factors	Hindering Factors	Decision Points and Action
Initiation						
Planning						
Execution						
Control						
Closing						

F. Sample Survey Tool on the Delivery of the Primer Series

Name of Participant: _____

Course Attended: _____ Date of Course: _____

Your honest feedback will help us improve the delivery of our course. Please rate the statements on the left using the reference below. If you want to expound your rating, a space for your comments is also provided.

1 – Strongly Disagree 2 – Disagree 3 – Neutral 4 – Agree 5 – Strongly Agree

Relevance of Topics						Comments
1. The different topics helped me understand social issues that affect me	1	2	3	4	5	
2. The framework provided made me realize how different development factors are interrelated	1	2	3	4	5	
3. The inputs on ICTD is useful for my course back home	1	2	3	4	5	
4. The course can help me develop actual projects I can start with back home	1	2	3	4	5	
Management of Learning						**Comments**
5. The time used in the conduct of the seminar was well managed	1	2	3	4	5	
6. All topics were given sufficient time for discussion	1	2	3	4	5	
7. The flow of topics was logically organized	1	2	3	4	5	
8. The learning methods and tools used were appropriate for the topics	1	2	3	4	5	

Management of Learning						Comments
9. The class size was manageable, and allowed and invited interaction among participants	1	2	3	4	5	
10. Participants were allowed and encouraged to participate in discussions	1	2	3	4	5	
11. The sample cases were relevant to my own context	1	2	3	4	5	
Resource Person/Trainer						Comments
12. The resource person had mastery of the subject matter	1	2	3	4	5	
13. The resource person was well prepared	1	2	3	4	5	
14. The resource person was able to keep the session interesting	1	2	3	4	5	
15. The resource person was able to respond to/handle participants' questions	1	2	3	4	5	
16. The resource person optimized the use of visual aids and learning materials	1	2	3	4	5	
Venue, Logistics and Training Support						Comments
17. The venue was easily accessible to participants	1	2	3	4	5	
18. Logistical support was provided to participants	1	2	3	4	5	
19. Support staff was able to address participants' seminar-related concerns outside the scope of the resource person	1	2	3	4	5	

References

1. Ruth Rosario D. Gerochi and others, Monitoring & Evaluation Toolkit, The Academy of ICT Essentials for Government Leaders (Incheon, UN-APCICT/ESCAP, 2013). Available from http://www.unapcict.org/academy/academy-modules/english-version/Academy%20M-E_July%202013.pdf/.

2. Ruth Rosario D. Gerochi and others, Monitoring and Evaluation Case Studies of the Academy of ICT Essentials for Government Leaders (Incheon, UN-APCICT/ESCAP, 2013). Available from http://unapcict.org/ecohub/monitoring-and-evaluation-case-studies-of-the-academy-of-ict-essentials-for-government-leaders.

3. Usha Rani Vyasulu Reddi, Primer 1: An Introduction to ICT for Development, Primer Series on ICTD for Youth (Incheon, UN-APCICT/ESCAP, 2011). Available from http://www.unapcict.org/academy/pr.

4. Maria Juanita R. Macapagal, Primer 2: Project Management and ICTD, Primer Series on ICTD for Youth (Incheon, UN-APCICT/ESCAP, 2013). Available from http://www.unapcict.org/academy/pr.

6. Daniel A. Wagner and others, Monitoring and Evaluation of ICT in Education Projects: A Handbook for Developing Countries (Washington, DC, infoDev / World Bank, 2005). Available from http://www.infodev.org/articles/monitoring-and-evaluation-ict-education-projects.

7. OECD, Evaluating Development Co-operation: Summary of Key Norms and Standards, Second Edition (OECD DAC Network on Development Evaluation, 2010). Available from http://www.oecd.org/development/evaluation/dcdndep/41612905.pdf.

8. John W. Creswell, Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, Second Edition (Sage Publications, 2003).

9. David Silverman, Doing Qualitative Research: A Practical Handbook, Second Edition (Sage Publications, 2005).

10. Frederick J. Gravetter and Larry B. Wallnau, Statistics for the Behavioral Sciences, Eighth Edition (Cengage Learning, 2007).

ABOUT THE AUTHORS

Lead Author

Ruth Rosario D. Gerochi Ruth Rosario D. Gerochi is a faculty member of the Ateneo School of Medicine and Public Health, and the Psychology Department of the Ateneo de Manila University. She completed her PhD in Social and Organizational Psychology at the Ateneo de Manila University. Over her 27 years of professional experience, she has developed, managed and evaluated major programmes in organization development and transformation, in multi-sector collaboration and participation, and in strengthening governance and service delivery mechanisms of private and public organizations. She has applied her expertise in program design and evaluation of local and international development programmes, and in specific development sectors – health, water and environment, governance and peace process.

Supporting Author

Maria Felda C. Alarkon is a Human Resource Development Specialist for an Australian Government program in the Philippines. In this role, she advises partner government organisations on plans, strategies, and investments to pursue for improved and efficient human resource management and development and service delivery. Her training in monitoring and evaluation is backed by 13 years of experience in various areas of program implementation including: community development; education policy development and lobbying; strategic planning; business modelling and resource building for social entrepreneurship endeavors; management of international and local scholarships and alumni associations; management of human resource competency development trainings; and, monitoring and evaluation.

UN-APCICT/ESCAP

The United Nations Asian and Pacific Training Centre for Information and Communication Technology for Development (UN-APCICT/ESCAP) is a subsidiary body of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). UN-APCICT/ESCAP aims to strengthen the efforts of the member countries of ESCAP to use ICT in their socio-economic development through human and institutional capacity building. UN-APCICT/ESCAP's work is focused on three pillars:

1. Training. To enhance the ICT knowledge and skills of policymakers and ICT professionals, and strengthen the capacity of ICT trainers and ICT training institutions;

2. Research and Knowledge Sharing. To undertake analytical studies related to human resource development in ICT; and

3. Advisory. To provide advisory services on human resource development programmes to ESCAP member and associate members.

UN-APCICT/ESCAP is located in Incheon, Republic of Korea.

http://www.unapcict.org

ESCAP

ESCAP is the regional development arm of the United Nations and serves as the main economic and social development centre for the United Nations in Asia and the Pacific. Its mandate is to foster cooperation between its 53 members and nine associate members. ESCAP provides the strategic link between global and country-level programmes and issues. It supports governments of countries in the region in consolidating regional positions and advocates regional approaches to meeting the region's unique socio-economic challenges in a globalizing world. The ESCAP office is located in Bangkok, Thailand.

http://www.unescap.org

The Primer Series on ICTD for Youth (http://www.unapcict.org/pr)

The Primer Series serves as a tool to help educators fill the gap in ICTD coverage in universities. It is designed to comprise of multiple issues addressing a range of topics in ICTD. This Series is intended to be flexible enough for use in different national contexts. Below are the brief descriptions of the Primer Series Issues.

Primer 1 - An Introduction to ICT for Development
This issue seeks to provide an introduction to and preliminary understanding of the linkages between ICTs and the achievement of human development goals in society. It is designed to provide background information that students in undergraduate and graduate programmes can use as a starting point in the exploration of the various dimensions of the linkages between ICT and development through case studies of ICT applications in key sectors of development in Asia-Pacific countries.

Primer 2 - Project Management and ICTD
This Primer provides fundamental concepts and tools of project planning and management. It will look into the use of ICTs in managing projects as well as delve into tools and techniques in managing ICT for development projects. This Primer refers to the framework and case study examples from Primer 1 and includes new cases to highlight the use of project management concepts and tools and techniques.

Primer 3 - ICT for Disaster Risk Management
This Primer introduces the basic concepts of ICTs and their role and application in disaster risk management as well as to the whole process and different components of disaster risk management. The Primer aims to foster a better understanding of how ICTs can be applied effectively in disaster risk management while providing case studies of ICT applications in all components of disaster risk management.

Primer 4 - ICT, Climate Change and Green Growth
This Primer introduces students to basic concepts of ICTs and their role in responding to climate change. It also provides an understanding of how ICTs can be applied to adapt to climate change while giving case studies on ICT applications. This Primer also seeks to foster a better understanding of how ICTs can be applied to achieve reductions in greenhouse gas emissions.

Primer 5 – Social Media for Development (upcoming)
Given the emergence of social media as a pervasive communication platform, the Primer introduces students to the role of social media in promoting socio-economic development and how they can be used as potent tools in governance and public services.

APCICT Virtual Academy (http://e-learning.unapcict.org)

The APCICT Virtual Academy is part of the multi-channel delivery mechanism that APCICT employs in the implementation of its flagship ICTD capacity building programme, the Academy of ICT Essentials for Government Leaders

The APCICT Virtual Academy allows learners to access online courses designed to enhance their knowledge in a number of key areas of ICTD including utilizing the potential of ICTs for reaching out to remote communities, increasing access to information, improving delivery of services, promoting lifelong learning, and ultimately, bridging the digital divide and achieving the MDGs.

All APCICT Virtual Academy courses are characterized by easy-to-follow virtual lectures and quizzes, and users are rewarded with APCICT's certificate of participation upon successful completion of the courses. All Academy modules in English and localized versions in Bahasa and Russian are available via the Internet. In addition, plans for more content development and further localization are underway.

e-Collaborative Hub (http://www.unapcict.org/ecohub)

The e-Collaborative Hub (e-Co Hub) is APCICT's dedicated online platform for knowledge sharing on ICTD. It aims to enhance the learning and training experience by providing easy access to relevant resources, and by making available an interactive space for sharing best practices and lessons on ICTD. e-Co Hub provides:

- A resources portal and knowledge sharing network for ICTD
- Easy access to resources by module
- Opportunities to engage in online discussions and become part of the e-Co Hub's online community of practice that serves to share and expand the knowledge base of ICTD

UN-APCICT/ESCAP
United Nations Asian and Pacific Training Centre for Information
and Communication Technology for Development
5th Floor G-Tower, 175 Art center daero,
Yeonsu-gu, Incheon City, Republic of Korea

www.unapcict.org

UNITED NATIONS ESCAP / APCICT
Economic and Social Commission for Asia and the Pacific

Published under Programme Supported by Korea International Cooperation Agency (KOICA)