



USAID | **LIBERIA**
FROM THE AMERICAN PEOPLE

EDDATA II

Education Survey Course

Participant Manual



Early Grade Reading Assessment (EGRA) Plus: Liberia

EdData II Task Number 3 and 6

Contract Numbers: EHC-E-03-04-00004-00 and EHC-E-06-04-00004-00

Strategic Objective 3

September 8, 2009

This publication was produced for review by the United States Agency for International Development. It was prepared by RTI International.

Education Survey Course

Participant Manual

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September 8, 2009

Prepared for
USAID/Liberia

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RTI International is a trade name of Research Triangle Institute.

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Note: This PDF file does not include the handouts that were presented to trainees during the Education Survey Course in Monrovia in September 2009. Some handouts were book length, others are available publicly as USAID reports, and some were in draft form at the time of the training. Information about the handouts can be obtained by contacting RTI project staff through the EdData II website, <https://www.eddataglobal.org/about/index.cfm>. A May 2010 online version of the course, including training materials, is available from <https://www.eddataglobal.org/courses/survey/index.cfm>.

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Appendix 1: Values of the t-distribution (two-tailed) for Session 11

Appendix 2: Table of $Z_{\alpha/2}$ Distribution Corresponding to Different Level of Confidence α for Session 11

EDUCATION SURVEY COURSE DOCUMENTS

1. Education Survey Course Agenda
2. Education Survey Course Trainer's Guide
3. Education Survey Course Participant Manual
4. Excel Exercises
 - a. Worksheet Exercise 4.1
 - b. Worksheet Exercises 5.1, 5.2, 5.3
 - c. Worksheet Exercise 6.5
 - d. Worksheet Exercises 10.1, 10.2, 10.3, 10.4
 - e. Worksheet Exercises 11.1, 11.2, 11.3, 11.4, 11.5, 11.6
 - f. Worksheet Exercises 12.2, 12.3, 12.4
 - g. Worksheet Exercises 14.1, 14.2, 14.3, 14.4
5. Handouts:
 - a. Handout 1: EGRA Liberia Baseline Assessment 2008 Report
 - b. Handout 2: 2007 EFA Global Monitoring Report
 - c. Handout 3A: DDSP Full Report
 - d. Handout 3B: DDSP Summary
 - e. Handout 4A: EGRA Liberia Student Instrument
 - f. Handout 4B: EGRA Liberia Teacher Instrument
 - g. Handout 4C: EGRA Liberia Principal Instrument
 - h. Handout 5: Kenya Education Management Capacity Assessment (KEMACA) Report
 - i. Handout 6: Ed Data II SSME tool for Classroom Observation
 - j. Handout 7: Focus Group Results Report
 - k. Handout 8A: Ami Vitale
 - l. Handout 8B: Ami Vitale
 - m. Handout 8C: Ami Vitale
 - n. Handout 9: Harvard Business School Ethnography field exercises
 - o. Handout 10: Evaluation of Big Mama's program

NOTE: The Participant Manual contains all Overheads that are referenced in the Trainer's Guide. In addition, it also contains two appendices, one on t-distributions and one on z-tables.

Goals of the Educational Survey Course

1. Train district education leaders in how to ...

- a. design and
- b. carry out

...surveys to collect baseline or monitoring data.

2. Train district education leaders in how to ...

- a. analyze and
- b. present and use

...survey data to understand educational challenges and interventions and improve education quality...

...we will use reading in the early grades (Early Grade Reading or EGR) as a case in point...

Session 1: Course Introduction
Overhead 1.2: Course Outline

Course Outline

Session 1: Course Introduction

Session 2: Defining the Research Question and Identifying the Appropriate Research Tool

Session 3: Planning a Survey & Overview of the Research Cycle

Session 4: Random Sampling

Session 5: Selecting the Sample

Session 6: Questionnaire Design

Session 7: Piloting the Questionnaire

Session 8: Collecting Data

Session 9: Field Exercise, Simulated

Session 10: Entering Data

Session 11: Data Analysis

Session 12: Mini-Workshop in Lot Quality Assurance Sampling (LQAS)

Session 13: Data Interpretation, Use, and Target-Setting

Session 14: Sharing Research Findings and Analysis

Session 1: Course Introduction
Overhead 1.3: Course Agenda

Early Grade Reading Assessment (EGRA) Plus: Liberia	
Sept 14-18, 2009 Ministry of Education, 8 th Floor Training Room	
Training Agenda: Surveys and Statistics Course	
DAY 1: Monday	
10:00 – 10:30	Registration and Breakfast
10:30- 12:00	Session 1: Introductions and Setting the goals for the workshop <ul style="list-style-type: none"> ▪ Introductions of participants (5 min) ▪ Overview of the logistical arrangements (10 minutes) Overview of workshop goals (15 min)
12:00 – 13:00	Session 2: Defining research question and identifying appropriate research tools <ul style="list-style-type: none"> ▪ Defining and identifying critical research questions for their districts (and those to be used for this workshop) ▪ Identifying the appropriate research tools ▪ Two exercises: 1. developing a couple of research questions, and 2. Choose appropriate research tools for the questions chosen. ▪ Review of lessons and concepts learned
13:00 -14:00	Lunch
14:00-17:00	Session 2: Continued
17:00 – 17:15	Wrap-up and coffee/tea
DAY 2: Tuesday	
9:00 – 9:30	Registration and Breakfast
9:30 - 11:00	Session 3: Planning a survey and overview of the research cycle <ul style="list-style-type: none"> ▪ Overview of research cycle (lecture) ▪ Discussion about resources needed for such a cycle (review of the most common pitfalls)
11:00-13:00	Session 4: Random Sampling: <ul style="list-style-type: none"> ▪ Why sampling? (difference between census and sampling including the budget implications for each) ▪ Demonstration of random sampling ▪ Exercise: Random sampling ▪ Review of concepts learned
13:00- 14:00	Lunch
14:00-17:00	Session 5: Selecting the sample <ul style="list-style-type: none"> ▪ Understand the sampling unit ▪ Basics of sample size ▪ Review sampling frames ▪ Use a sampling frame to identify a random sample for a study (exercise) ▪ Exercises: 1. reviewing the sample frame, and identifying problems, and 2. identifying samples
17:00 – 17:15	Wrap-up and coffee/tea
DAY 3: Wednesday	
9:00 – 9:30	Registration and Breakfast
9:30- 11:00	Session 6: Questionnaire design <ul style="list-style-type: none"> ▪ General principles of questionnaire design ▪ Characteristics of questions ▪ Two exercise: 1. design research questions for questionnaire design activity, and 2. review of questionnaires among groups
11:05 – 13:00	Session 6: Questionnaire design <ul style="list-style-type: none"> • Practice actual questionnaire design, critique, coding
13:00- 14:00	Lunch

14:00 – 15:30	Session 6: Questionnaires design, continued <ul style="list-style-type: none"> • Practice actual questionnaire design, critique, coding
15:45-17:00	Session 8: Tips on collecting data and field work
17:00 – 17:15	Wrap-up and coffee/tea
DAY 4: Thursday	
9:00 – 9:30	Registration and Breakfast
9:30- 11:00	Session 7: Practice and pilot questionnaire with each other
11:00- 13:00	Session 11: Data analysis ¹ <ul style="list-style-type: none"> ▪ procedures for calculating: a) percentages and rates, b) ratios, c) averages, d) standard deviations, e) range, f) confidence intervals, and g) sample size
13:00- 14:00	Lunch
14:00-17:00	Session 11: Data analysis, continued <ul style="list-style-type: none"> ▪ procedures for calculating: a) percentages and rates, b) ratios, c) averages, d) standard deviations, e) range, f) confidence intervals, and g) sample size
17:00 – 17:15	Wrap-up and coffee/tea
DAY 5: Friday	
9:00 – 9:30	Registration and Breakfast
9:30- 11:00	Session 14: Presenting data: graphs and tables
11:00-12:30	Session 14: Presenting data: graphs and tables, continued
12:30- 13:00	Workshop wrap-up and summary, possible next steps
13:00-14:00	Lunch
14:00	Departure

¹ Note. In the Liberian version of this, certain Sessions may be skipped as the Liberians are already familiar with some of these topics. Thus we may skip over from Session 8 to Session 11. Also, some sessions are just too long for a 1-week course.

Session 2: Defining the Research Question and Identifying the Appropriate Research Tool

Overhead 2.1: What makes a good research question?

What makes a good research question?

1. A good research question provides new and useful information
2. A good research question is answerable (i.e. it does not depend on people's beliefs and values)

Come up with 2-4 research questions for which you think that are important in your education district. Keep the following questions in mind as you think of their research questions

- What are the main challenges or problems the district faces in terms of education?
- Are there are problems with student learning?
- How did you come to conclude that these are the real problems?
- How do you know which problems are worse than others?
- Have there been any recent interventions to resolve district problems?
- What research has been done already and doesn't need to be investigated anymore?
- Is there any research that could be an important follow-up to preexisting research?
- Have there been any interventions done with respect to the problems you identified?
- Do you know and how do you know have these interventions worked out or not?

Baseline, Monitoring, and Evaluation Research

1. Baseline Research is...

- research to find out about an existing issue
- Aimed at providing information on a potential problem *prior* to any intervention
- *Example in Handout 1: EGRA Liberia Baseline Assessment 2008 Report*

2. Monitoring Research is...

- research that involves a routine collection of information, usually on the progress of a problem or an intervention
- usually done multiple times to monitor the progress towards some goal or target.
- *Example in Handout 2: 2007 EFA Global Monitoring Report*

3. Evaluation Research is...

- research that rigorously investigates the effect of something
- *Example in Handout 10: Evaluation of Big Mama's Program*

Session 2: Defining the Research Question and Identifying the Appropriate Research Tool

Overhead: 2.3: Types of Research Tools

Types of Research Tools

1. Survey Research
 - Most commonly used tools for collecting primary data
 - Surveys refer to a set of questions asked of individuals regarding the subject that is being studied
 - *Example in Handout 5: Kenya Education Management Capacity Assessment (KEMACA) Report*
2. Focus Groups
 - Researchers convene meetings in which a group of individuals discuss the research subject that is being studied.
 - provide qualitative, rather than quantitative data.
 - Useful for learning about people's ideas or experiences pertaining to the research topic.
 - *Example in Handout 7: Focus group report: Communication strategies for advocates of early childhood education*
3. Experiments
 - most rigorous form of quantitative research and are designed to measure the impact of a particular thing on people.
 - *Example: Handout 1: EGRA Liberia Baseline Assessment 2008 Report*
4. Ethnography and case studies (qualitative research)
 - an intensive qualitative research method where a researcher spends an extended period of time studying and learning about a particular object of study... in our case the most relevant example would be to study management practices of successful head teachers or district leaders.
 - Examples in Handouts 9A, 9b and 9C: Ethnographic photographer – Ami Vitale

Types of Survey Research Tools

1. Interviews

- face-to-face meetings where a researcher asks a set of questions to the individuals.
- *Example in Handout 5: Kenya Education Management Capacity Assessment (KEMACA) Report*

2. Observational Surveys

- A researcher answers a set of questions by observing in the setting under study.
- *Example in Handout 6: EdData II SSME tool for classroom observation*

3. Student Assessments

- tests administered to students to assess their skills or knowledge in terms of the subject of the study.
- *Example in Handouts 4A, 4B and 4C: EGRA Liberia Assessment Tools*

Stages of the Research Cycle

1. **Define research question:** the first step in the research cycle is to define your research question. The research question should be useful in providing new information and it should be answerable
2. **Collect data:** Data collection involves deciding what data to collect, how, from where, and how much of it.
3. **Process data:** Processing data involves bringing together all the collected data and ensuring that it is of good quality.
4. **Analyze data:** Analyzing data is the step in which you use the data to answer your research question, frequently by converting raw data into indicators.
5. **Present findings:** Presenting your findings is a critical step in the research cycle. This is when you share what you've learned with the relevant people in a clear and understandable way.
6. **Using findings:** Using your findings is perhaps the most important step in the process. This is where you take your findings and make decisions and take actions that respond to the problem or situation you researched.

Session 3: Planning a Survey & Overview of the Research Cycle

Overhead 3.2: Before you begin....

Before you begin your research you need to:

- Identify research objectives
- Define research questions
- Identify the final indicators you want to know
- Determine the financial feasibility of the research being proposed

Data collection usually involves the following steps:

- Design the questionnaire and data entry form
- Establish data collection procedures and data quality control mechanisms
- Train interviewers
- Conduct a pilot and make needed adjustments to the questionnaire
- Draw random sample
- Conduct and monitor fieldwork

Before processing the data that has been collection...

- **Check data for data quality problems**
 - Check data entry form
 - Train data processors
 - Enter data

Session 3: Planning a Survey & Overview of the Research Cycle

Overheard 3.5: Planning for Analyzing Data

Analyzing Data

- Analyze the data that you have collected to answer research questions
- Convert raw data into indicators

Once your research findings are ready to be presented...

- Plan where to present your findings
- Plan to whom you will present your findings
- Plan how to present your findings in the most effective manner (i.e. through presentations, meetings, publications...)

How would you use our research findings?

- What sorts of policies, programs, or changes do you think could come from this research?
- How can your findings be used in designing and implementing initiatives?
- Remember that research findings that are not put to use are wasted

Session 4: Random Sampling

No Overheads

Appropriate Sample Size depends on 3 things:

- 1) How precisely you want know about what you are researching and how sure you want to be that your sample represents the population well.

The more precise and sure you want to be the bigger your sample size should be.

- 2) How much variation there is in the parameter you are studying.

The more variation there is in the parameter you are studying the bigger your sample size should be.

- 3) How big your population is.

The bigger the population the bigger your sample size should be (But note: This is the least important of the three factors).

When Designing a Questionnaire, Remember:

1. Each questionnaire needs a unique way to identify it (name or number on every page!)
2. Questionnaires should be neat and easy to complete
3. Questions should be numbered
4. Leave plenty of space between questions
5. Give clear and complete instructions (in a different font)
6. Important words can be bolded or underlined to ensure uniform emphasis
7. Think about question sequence
8. Plan how you will code responses
9. Always pilot test your questionnaire

Questionnaire Questions Should Be:

Brief,

Objective,

Simple,

and

Specific.

Sample Research Questions for Questionnaire Design

- Have you received any training on how to teach reading at lower Grade?
- Do you develop lessons plans?
- Do your lesson plans state objectives for teaching reading
- Do your lesson plans include plans and use of resource materials?
- Do you use resource materials to teach reading?
- Do you teach children the names of alphabets/letter?
- Do you teach children the letter sounds?
- Do you teach phonemes?
- Do you read aloud short stories to children?
- Do you have children read aloud to you?
- Do you teach sentence structures to children?
- What type of teaching aids do you use in teaching children how to read?
- Do you give home work to children?
- After marking the assignment what do you do for the children who missed certain work?
- What do you say or do to the children when they do well in their class or home work
- What do you do or say to the children when they do badly in their class or home work?
- Do you assess reading?
- Did you receive any training on how to assess reading?
- Did you receive any training on how to assess comprehension?
- How do you assess comprehension?
- Do you have a school library?
- Are children allowed to take school text books home?
- How many of your students do you think can read

Session 6: Questionnaire Design
Overhead 6.4: Questionnaire write-up

- 1) Identification
 - Identification of interviewee (if possible) and link to other interviewees (e.g., link children to teachers, teachers to schools, etc.).
 - May want to have the one basic ID in case questionnaires come apart.
- 2) Clear, neat layout;
- 3) Numbered questions;
- 4) Complete and clear instructions;
- 5) Brief, objective, simple, and specific questions;
- 6) Logical sequencing of questions.
- 7) Pre-think how you will code and make sure it is embodied in the questionnaire.

Session 7: Piloting the Questionnaire

Overhead 7.1: Review Questions for Piloting Exercise

Questionnaire Pilot Test: Things to Look Out for

- Do respondents understand what the survey is about?
- Do they feel comfortable answering questions?
- Is the wording clear?
- Is the time reference clear?
- Are the response categories compatible with respondents' experience?
- Are there any hard questions or questions that make respondents irritated or embarrassed?
- Do any questions generate bias? (Did respondents feel they should answer in a particular way?)
- How much variability is there in the answers of the different respondents?
- Does the questionnaire feel too long?
- Do respondents feel that important issues are overlooked by the questionnaire?
- Do interviewers experience any confusion about what to read or how to read it?
- Are the instructions and questions clear?
- Are any inappropriate assumptions made?
- Do any questions require respondents to remember things they couldn't remember well or require them to answer questions about things they don't know about?
- Are the response options appropriate? (Not overlapping, missing, vague...)
- Do we cover all of the issues that we want to measure
- Make sure that all questions contribute to what we want to measure

Interview and Assessment Etiquette

- Familiarize yourself with the questionnaire or assessment before administering it
- Dress appropriately
- Be polite
- Present official documentation from the organization or project if necessary
- Be timely
- If at a school, try to disrupt normal school activities as little as possible
- Tell the respondent how long the questionnaire or assessment will take
- Explain the purpose and benefits of the survey for the school
- Obtain the respondent's consent
- Inform the respondent that the survey will not affect their grades (in case of students) and performance (in case of teacher)
- Thank the respondent, teacher, and principal at the end

Session 8: Collecting Data

Overhead 8.2: Characteristics of Effective Interviewing and Assessment

Adapted from Valadez et al (2003)

Characteristics of Effective Interviewing and Assessment

1. Introduce yourself, your organization, and the purpose of your survey.
2. Maintain confidentiality: explain that all answers will be kept confidential and do not conduct the interview or assessment in front of other people.
3. Ask questions exactly as they are written in the assessment/questionnaire.
4. Wait for a response, be silent, then probe (use neutral probes like 'anything more?').
5. If the respondent does not understand or their answer is unclear ask the question again making as few changes as possible.
6. Do not suggest – by tone of voice, body language, words, or facial expressions – the answer you want.
7. Do not react to answers in ways that suggest that you approve or disapprove (no nodding or any other spoken forms of approval)
8. Do not ask leading questions, questions that signal the correct answer, or that suggest the answer you would like.
9. In a questionnaire, if one answer is inconsistent with another try to clear up the confusion.
10. Maintain a conversational rather than an interrogational tone of voice.
11. With children establish where to conduct interview/assessment (i.e. in public).

Session 9: Field Exercises

No overheads

Session 12: Mini-Workshop on LQAS

Overhead 12.1: What LQAS can estimate for us

LQAS can estimate for us:

- How much of a population is meeting a goal or standard;
- Whether over time the 'coverage' of that goal or standard is increasing; and
- How supervision areas within the program area compare to one another in terms of indicators (are there some that are lagging behind or pulling ahead?)

Why Use a Random Sample of 19?*

- A sample of 19 (randomly selected) in each Supervision Area is recommended in the LQAS methodology because it provides an acceptable level of error for making management decisions.
- Samples greater than 19 have practically the same statistical precision as 19. They do not result in better information, and they cost more.
- Samples less than 19 do not produce results exact enough to make sound management decisions.
- At least 92% of the time a sample of 19 correctly identifies whether a Supervision Area has reached its coverage target or whether a coverage benchmark has been reached.

What a Random Sample of 19 Can Tell Us

- What are the higher and lower performing supervision areas
- How to set priorities among supervision areas with large differences in coverage and among practices and/or indicators within a supervision area.

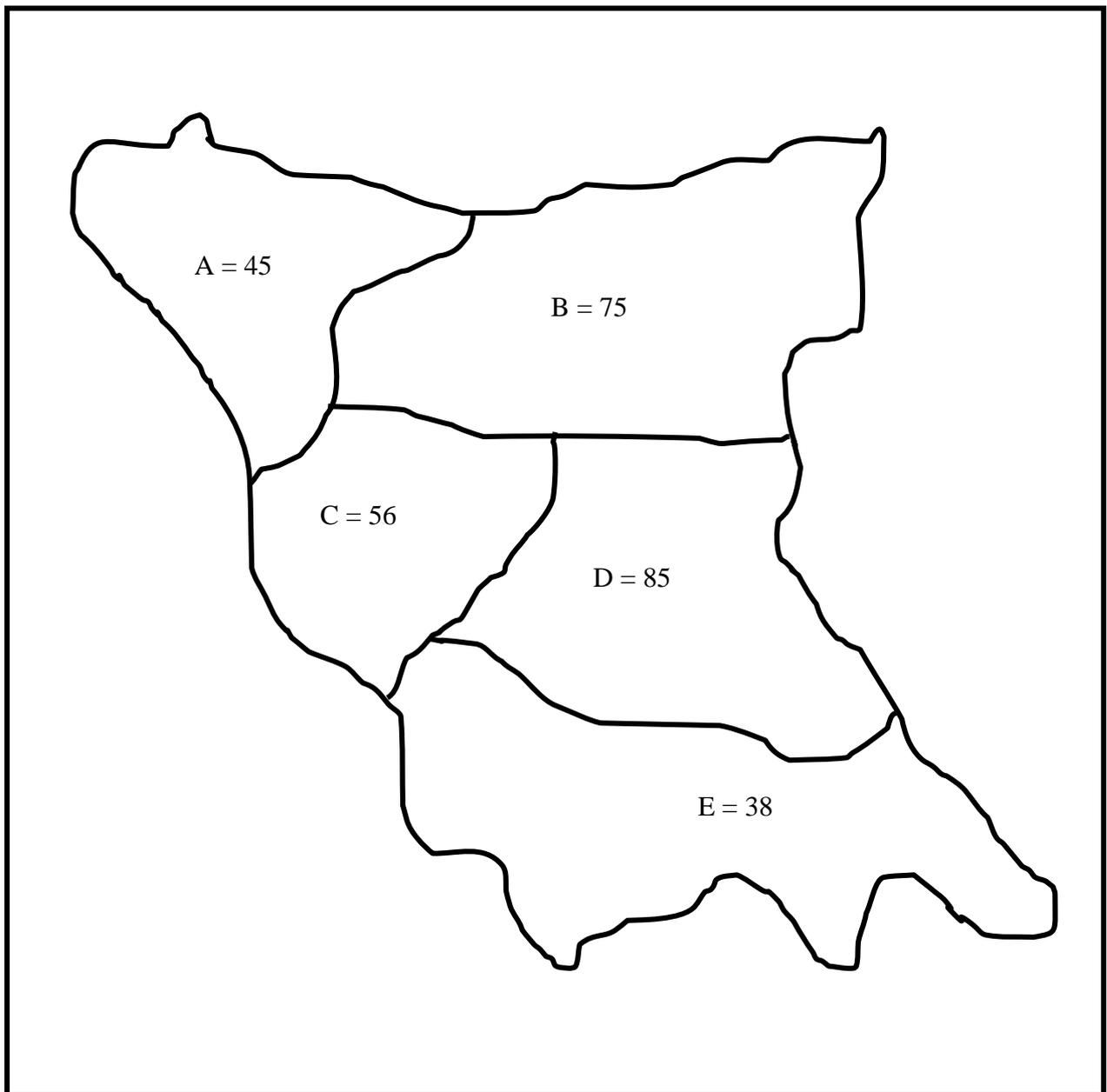
What a Random Sample of 19 Cannot Tell Us

- The Exact coverage in a Supervision Area but it can be used to calculate coverage for an entire program.
- How to set priorities among supervision areas that have little difference in coverage among them.

Session 12: Mini-Workshop on LQAS

Overhead 12.3: Map of district divided into supervision areas with average compliance with standard

Map of district divided into supervision areas with average compliance with standard



Basic LQAS Terminology

- **Supervision Area (SA).** The catchment area that a supervisor wants to assess (e.g.
- **Coverage Benchmark.** A minimum coverage level (percentage) that a supervisor or manager expects the program to reach in a certain period of time. The supervisor or manager decides what is considered adequate or inadequate performance.
- **Average Coverage.** The average coverage (percentage) for a question or an indicator across the supervision areas. It is the number of people in the sample who responded correctly to a question divided by the total number of people responding to that question.
- **Coverage.** The proportion (percentage) of respondents in a supervision area that show the desired program effect.
- **Decision Rule.** The “decision rule” informs you whether or not an individual supervision area reaches the average coverage or is below the average coverage. For example, if the target or benchmark is to have 80 percent of fourth grade student read at least 100 words per minute, for a sample size of 19, at least 13 fourth grade students in the survey must be able to read at least 100 words per minute. The number 13 thus becomes the decision rule.

Session 12: Mini-Workshop on LQAS

Overhead 12.5: Example: One Indicator in Five Supervision Areas

Example: One Indicator in Five Supervision Areas

Indicator: Grade 4 student can read 100 words per minute	# Correct	Coverage Estimate =	Equal to or above average? Yes or No
Supervision Area A	11	67.30%	Yes
Supervision Area B	15		Yes
Supervision Area C	13	Decision Rule = 11	Yes
Supervision Area D	10		No
Supervision Area E	15		Yes

1. Add Number Correct in all Supervision Areas: $11 + 15 + 13 + 10 + 15 = 64$

Add all Sample Sizes: $19 + 19 + 19 + 19 + 19 = 95$

Coverage Estimate = Average Coverage = $64/95 = 67.3\% = 70\%$ (Round up to the nearest interval of 5 to find the Decision Rule)

2. Use the LQAS Table to find the Decision Rule. Decision Rule = 11
3. Compare the answer in the # Correct column for each Supervision Area with the Decision Rule and answer the question in the last column "is the coverage in the SA equal to or above average?"
4. Are you able to identify which Supervision Area should be your priority? If yes, which are they? They are Supervision D.

Session 12: Mini-Workshop on LQAS
 Overhead 12.6: Set of 19 completed baseline questionnaires for each supervision area

Set of 19 completed baseline questionnaires for each supervision area TO DO

	Supervision Areas				
	A	B	C	D	E
Sample	# of students who can read 100 words per minute				
1	6	5			
2	9	8			
3	10	13			
4	8	16			
5	7	14			
6	4	10			
7	10	8			
8	11	7			
9	12	13			
10	15	15			
11	18	18			
12	17	15			
13	9	16			
14	12	14			
15	13	13			
16	15	17			
17	14	6			
18	18	9			
19	8	12			

Session 12: Mini-Workshop on LQAS

Overhead 12.7: Tabulation sheet for baseline questionnaire

Tabulation Table for a Supervision Area: Baseline Questionnaire																							
Supervision Area:			Supervisor:														Date:						
CORRECT = 1			INCORRECT = 0					SKIPPED = S					MISSING = X										
No.	Indicator	Correct Response Key	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total Correct in SA	Total Sample Size (all '0's and '1's)
Section 3: Family Planning																							
1	Age of Mother at first birth	20-35																					
2	How long should a female wait after the birth of a child to have another?	2 or more years																					
3	What can a female or male do to avoid pregnancy?	3 or more of acceptable responses																					
Section 4: HIV/AIDS and Other Sexually Transmitted Infections																							
1	Have you ever had of an illness called HIV/AIDS?																						
3	What can a man do to avoid getting HIV/AIDS?																						
4	Is there anything a woman can do to avoid getting HIV/AIDS?																						
5	What can a woman do to avoid getting HIV/AIDS?																						

How to Code a LQAS Tabulation Sheet

- Keep in mind that all LQAS data is recorded in terms of whether it complies with or does not comply with a set standard or goal.
- In the "Correct Response" column, enter:

Correct = 1
Incorrect = 0
Skipped = S
Missing = X
- A question with no recorded response can be coded as 1, 0, S, or X.

No response = 0 when the respondent's answer to an earlier 'filter' question means that the answer to the present question is incorrect.

No response = 1 when the answer to a previous filter question means that the subsequent question is skipped but is correct.

No response = S when a question is not applicable.

No response = X when a question should have an answer but does not.

Session 12: Mini-Workshop on LQAS

Overhead 12.9: Summary Tabulation Table for Baseline Questionnaire

Summary Tabulation Table: Baseline Questionnaire														
Name:										Date:				
No.	Indicator	Total Correct in Each SA/Decision Rule					Total Correct in Program	Sample Size					Total Sample Size in Program	Average Coverage = Total Correct Sample Size
		A	B	C	D	E		A	B	C	D	E		
Section 3: Family Planning														
1	Age of Mother at first birth													
2	How long should a female wait after the birth of a child to have another?													
3	What can a female or male do to avoid pregnancy?													
Section 4: HIV/AIDS and Other Sexually Transmitted Infections														
1	Have you ever head of an illness called HIV/AIDS?													
2	Is there anything a man can do to avoid getting HIV/AIDS													
3	What can a man do to avoid getting HIV/AIDS?													
4	Is there anything a woman can do to avoid getting HIV/AIDS?													
5	What can a woman do to avoid getting HIV/AIDS?													

Session 12: Mini-Workshop on LQAS
 Overhead 12.10: LQAS Table

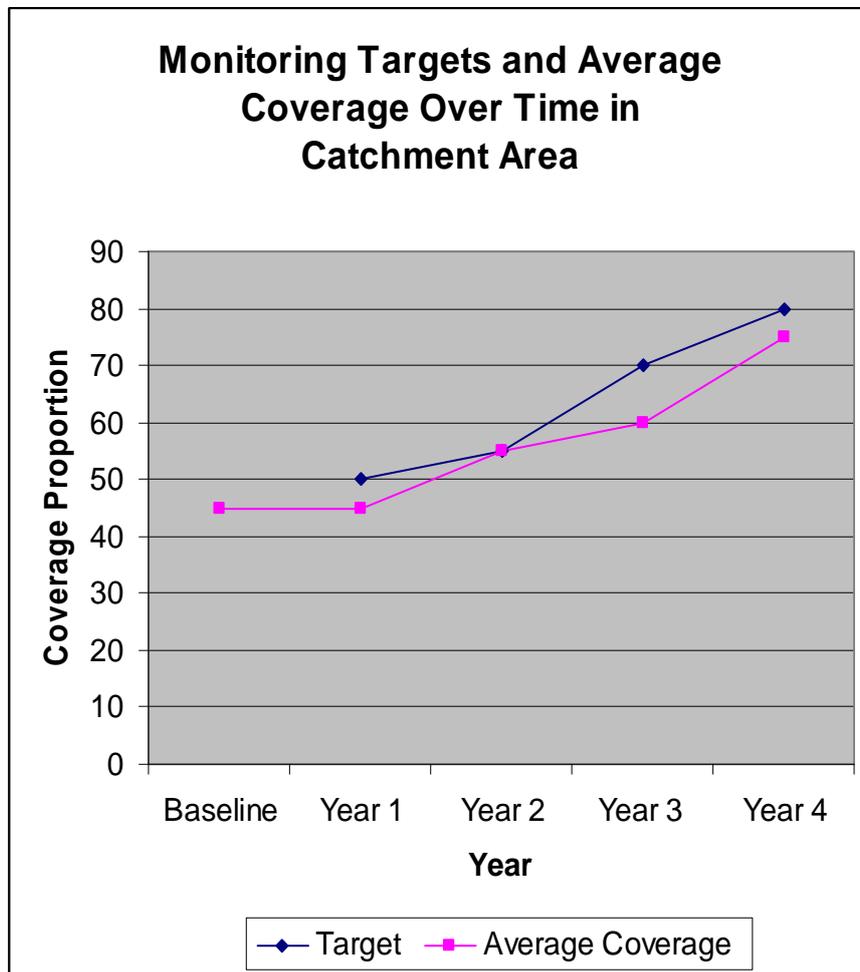
LQAS Table: Decision Rules for Sample Sizes of 12-30 and Coverage Targets/Average of 10%-95%																		
Sample Size	Average Coverage (Baselines)/Annual Coverage Target (Monitoring and Evaluation)																	
	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%
12	N/A	N/A	1	1	2	2	3	4	5	5	6	7	7	8	8	9	10	11
13	N/A	N/A	1	1	2	3	3	4	5	6	6	7	8	8	9	10	11	11
14	N/A	N/A	1	1	2	3	4	4	5	6	7	8	8	9	10	11	11	12
15	N/A	N/A	2	2	2	3	4	5	6	6	7	8	9	10	10	11	12	13
16	N/A	N/A	2	2	2	3	4	5	6	7	8	9	9	10	11	12	13	14
17	N/A	N/A	2	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15
18	N/A	N/A	2	2	2	3	5	6	7	8	9	10	11	11	12	13	14	16
19	N/A	N/A	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
20	N/A	N/A	2	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17
21	N/A	N/A	2	2	3	4	5	6	8	9	10	11	12	13	14	16	17	18
22	N/A	N/A	2	2	3	4	5	7	8	9	10	12	13	14	15	16	18	19
23	N/A	N/A	2	2	3	4	6	7	8	10	11	12	13	14	16	17	18	20
24	N/A	N/A	2	2	3	4	6	7	9	10	11	13	14	15	16	18	19	21
25	N/A	1	2	2	4	5	6	8	9	10	12	13	14	16	17	18	20	21
26	N/A	1	2	3	4	5	6	8	9	11	12	14	15	16	18	19	21	22
27	N/A	1	2	3	4	5	7	8	10	11	13	14	15	17	18	20	21	23
28	N/A	1	2	3	4	5	7	8	10	12	13	15	16	18	19	21	22	24
29	N/A	1	2	3	4	5	7	9	10	12	13	15	17	18	20	21	23	25
30	N/A	1	2	3	4	5	7	9	11	12	14	16	17	19	20	22	24	26

N/A: Not applicable, meaning LQAS can not be used in this assessment because the coverage is either too low or too high to assess an SA. This table assumes the lower threshold is 30 percentage points below the upper threshold.

 : shaded cells indicate where alpha and beta errors are $\geq 10\%$
 : shaded cells indicate where alpha or beta errors are $> 15\%$

Note: LQAS table adapted from Assessing Community Health Programs: A Participant's Manual and Workbook.

Session 12: Mini-Workshop on LQAS
Overhead 12.11: Graph of baseline and targets



Session 12: Mini-Workshop on LQAS

Overhead 12.12: Summary Tabulation: Regular Monitoring

Summary Tabulation Table: Regular Monitoring																				
Name:											Date:									
No.	Indicator	Total Correct in Each SA/Decision Rule										Total Correct in Program	Sample Size					Total Sample Size in Program	Average Coverage = Total Correct Sample Size	Coverage Target
		A	B	C	D	E	A	B	C	D	E									
CIRCLE IF BELOW AVERAGE COVERAGE DECISION RULE; MARK WITH A STAR (*) IF BELOW COVERAGE TARGET DECISION RULE																				
Student Assessment																				
1	Fourth grade student can read 100 words per minute	11*	15	13	10	15	64		19	19	19	19	19	95	67.3 %	80%				
		11	13	11	13	11	13	11	13	11	13									
2	How long should a female wait after the birth of a child to have another?																			
3	What can a female or male do to avoid pregnancy?																			
Section 4: HIV/AIDS and Other Sexually Transmitted Infections																				
1	Have you ever head of an illness called HIV/AIDS?																			
2	Is there anything a man can do to avoid getting HIV/AIDS																			
3	What can a man do to avoid getting HIV/AIDS?																			
4	Is there anything a woman can do to avoid getting HIV/AIDS?																			
5	What can a woman do to avoid getting HIV/AIDS?																			

Understanding and Using Research Findings

Work in teams of four. You will have 45 minutes to discuss these questions and come up with responses. You will then have 5 minutes to present your conclusions to the entire course. Your presentation should touch upon all four of these questions, focusing on your responses to questions 3 and 4.

1. What are the main characteristics that stand out in your group's research findings? These main characteristics can be problems, successes, inequalities, etc. Write these main findings down.
2. Keeping in mind the main characteristics of your findings, what priorities do you identify in terms of geographic areas that need attention, topics that need attention, or inequities that need attention? Record these priorities.
3. Knowing the characteristics and priorities that emerge from your group's research findings what policy and program recommendations would you make? Write down your suggested policies and interventions.
4. Finally, please plan realistic annual targets for the next three years for the indicators you hope to improve through your policy and program interventions. Record your targets.

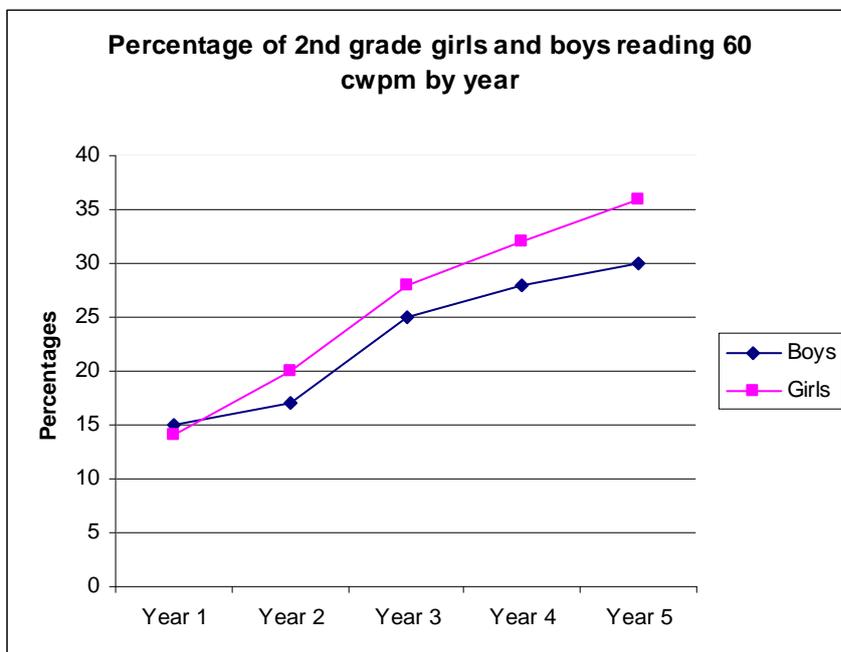
Sample survey results for plenary example

- 92% of surveyed students reported that they attended pre-school education
- 87% of students are assisted with homework at home
- 78% of students reported that they reading material available at home.
- 0.5% of students speak English at home; 15.3% of students speak Kiswahili, while 84.3% of students speak their respective mother tongue;
- On average, students read 11.7 correct words per minute in disconnected text in Kiswahili. In English, the average is 7.5;
- With respect to fluency in Kiswahili read on average 10.2 cwpm while the average in English is 11.4.
- Out of 5 correct comprehension question answers, students on average responded 0.4 correct questions in both English and Kiswahili;
- 21% of students were able to recognize more than 25 correct words per minute in Kiswahili language. In English, 9% of students were able to recognize more than 25 correct words per minute

Audience

1. What language and vocabulary is appropriate?
2. How much detail should be given?
3. What, in your findings, is meaningful to this audience?
4. What part of your findings should you focus on?
5. How can you get your information to the audience?
6. How do you expect your information to effect the ideas, feelings, or actions of your audience and what does this mean for how you present it?

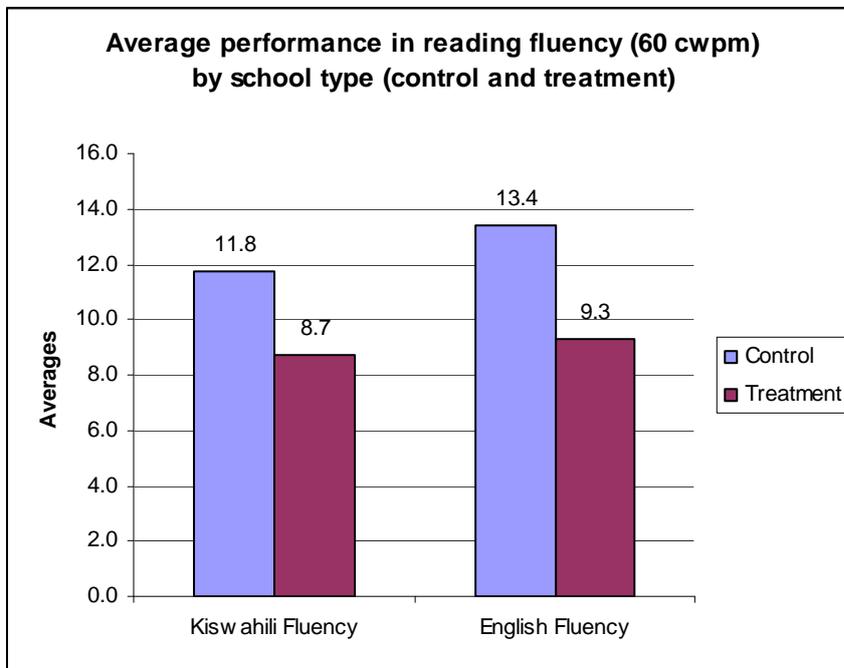
Line Graphs



- Line graphs are best used to show changes in a variable over time (trends).
- The x-axis represents time and the y-axis plots the variable of some variable.
- Referring to the line graph on the “Percentage 2nd grade girls and boys” reading at least 60 correct words per minute in Malindi by year” answer the following questions:
 - How would you interpret this graph?
 - How does girls’ reading compare to boys’?
 - What has been the trend over time?
 - Is the graph easy to understand or not?

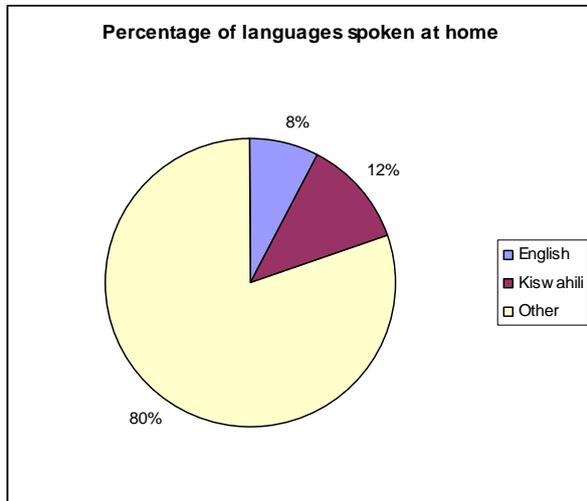
Session 14: Sharing research findings and analysis
Overhead 14.3: Bar graphs

Bar Graphs



- Bar graphs are usually used to compare different groups.
- The x-axis lists the different groups being compared and the y-axis shows the corresponding value for each group.
- Referring to the bar graph on the "Average performance in reading fluency (60 cwpm) by school type (control and treatment", please answer the following questions:
 - How would you interpret this graph?
 - How do treatment schools compare to control schools on Kiswahili fluency?
 - How do treatment schools compare to control schools on English fluency?
 - Is the graph easy to understand?

Pie Charts



- Pie charts are useful for showing the contribution of different pieces to a total, i.e. they show percentages as part of a whole.
- The percentages of the pie chart must add up to 100.
- Pie charts are useful for showing percentages and to make comparisons.
- Referring to the pie chart on "Percentage of languages spoken at home" please answer the following questions:
 - What is the main message of this pie chart?
 - Is the chart easy to understand?

Tables

Kiswahili	Average
K. Letter recognition	4.7
K. Word recognition	11.7
K. Passage words	10.2
K. Comprehension score	0.4
English	Average
E. Letter recognition	22.7
E. Word recognition	7.5
E. Passage words	11.4
E. Comprehension score	0.4
E. Phoneme segmentation	11.5

- The primary purpose of tables is to list data.
- Tables also highlight changes over time or compare different groups.
- Tables can usually display more information than graphs.
- Tables can contain many different messages and interpretations and are therefore generally more difficult to interpret than graphs.
- Based on the table above, please answer the following questions:
 - How do the different indicators compare to each other?
 - Compare performance in different languages? How do these to languages compare?
 - What areas need the most support?
 - What areas are doing well?
 - What sort of interventions might be warranted?
 - Is the table easy to understand?

Report and Presentation Format

Reports and presentations should include the following sections:

5. **Summary:** Summarize the study as a whole and briefly review each of the subsequent sections.
6. **Program overview:** If the survey is on a particular program, then this section should briefly describe the locations, objectives, activities, and beneficiary of the program.
7. **Purpose of survey and methodology:** Describe your main research question, why it is important, and how you carried out the research. Include the sample size, how the sample was chosen, and the questionnaire or assessment that was used.
8. **Main findings:** Present your indicators, interpret their meanings, and highlight your findings and priority areas.
9. **Recommendation and targets:** Based on your findings and the priorities that you have identified, list the recommendation and targets (e.g. input, process, output, and outcome).
10. **Conclusion and additional recommendations:** Review your main conclusions and offer additional recommendation (e.g. areas for future research analysis).
11. **Appendix** (for reports only, not for presentation): Include other information that should be available to readers but does not need to be in the body of the report (e.g. methodologies for calculating indicators, copy of tabulation data for LQAS).

Session 14: Sharing research findings and analysis

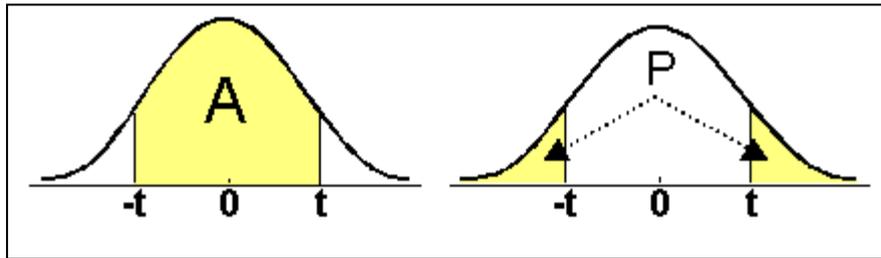
Overhead 14.7: Presentation Skills

* Advice from Edward Tufte (May 23, 2006)

***Tips on How to Give a Good Presentation**

- Show up early and start your presentation on time.
- Start by giving a brief overview of your presentation so your audience knows what to expect.
- There is no need to apologize before your presentation.
- Provide your audience with a copy of your technical report so they can read and refer to it after your presentation.
- Give your audience a piece of paper so they can take notes.
- Think about the very best of your audience.
- Humor makes things memorable.
- Avoid masculine pronoun exclusively (e.g. use words like "the participant", "the user", "the students", "they").
- Be appropriately expressive.
- Practice, practice, practice.
- Speak slowly and clearly.
- Finish early.

Appendix 1: Values of the t-distribution (two-tailed) (for Session 11)



DF	A	0.8	0.9	0.95	0.99	0.995	0.999
	P	0.2	0.1	0.05	0.01	0.005	0.001
1		3.078	6.314	12.706	63.657	127.321	639.619
2		1.886	2.92	4.303	9.925	14.089	31.598
3		1.638	2.353	3.182	5.841	7.453	12.941
4		1.533	2.132	2.776	4.604	5.598	8.61
5		1.476	2.015	2.571	4.032	4.773	6.859
6		1.44	1.943	2.447	3.707	4.317	5.959
7		1.415	1.895	2.365	3.499	4.029	5.405
8		1.397	1.86	2.306	3.355	3.833	5.041
9		1.384	1.833	2.262	3.25	3.69	4.781
10		1.372	1.812	2.228	3.169	3.581	4.587
11		1.363	1.796	2.201	3.106	3.497	4.437
12		1.356	1.782	2.179	3.055	3.428	4.318
13		1.35	1.771	2.16	3.012	3.372	4.221
14		1.345	1.761	2.145	2.977	3.326	4.14
15		1.341	1.753	2.131	2.947	3.286	4.073
16		1.337	1.746	2.12	2.921	3.252	4.015
17		1.333	1.74	2.11	2.898	3.222	3.965
18		1.33	1.734	2.101	2.878	3.197	3.922
19		1.328	1.729	2.093	2.861	3.174	3.883
20		1.325	1.725	2.086	2.845	3.153	3.85
21		1.323	1.721	2.08	2.831	3.135	3.819
22		1.321	1.717	2.074	2.819	3.119	3.792
23		1.32	1.714	2.069	2.807	3.104	3.767
24		1.318	1.711	2.064	2.797	3.091	3.745
25		1.316	1.708	2.06	2.787	3.078	3.725
26		1.315	1.706	2.056	2.779	3.067	3.707
27		1.314	1.703	2.052	2.771	3.057	3.69
28		1.313	1.701	2.048	2.763	3.047	3.674
29		1.311	1.699	2.045	2.756	3.038	3.659
30		1.31	1.697	2.042	2.75	3.03	3.646
31		1.309	1.696	2.04	2.744	3.022	3.633
32		1.309	1.694	2.037	2.738	3.015	3.622
33		1.308	1.692	2.035	2.733	3.008	3.611
34		1.307	1.691	2.032	2.728	3.002	3.601
35		1.306	1.69	2.03	2.724	2.996	3.591
36		1.306	1.688	2.028	2.719	2.99	3.582

DF	A	0.8	0.9	0.95	0.99	0.995	0.999
	P	0.2	0.1	0.05	0.01	0.005	0.001

37		1.305	1.687	2.026	2.715	2.985	3.574
38		1.304	1.686	2.024	2.712	2.98	3.566
39		1.304	1.685	2.023	2.708	2.976	3.558
40		1.303	1.684	2.021	2.705	2.971	3.551
42		1.302	1.682	2.018	2.698	2.963	3.538
44		1.301	1.68	2.015	2.692	2.956	3.526
46		1.3	1.679	2.013	2.687	2.949	3.515
48		1.299	1.677	2.011	2.682	2.943	3.505
50		1.299	1.676	2.009	2.678	2.937	3.496
60		1.296	1.671	2	2.66	2.915	3.46
70		1.294	1.667	1.994	2.648	2.899	3.435
80		1.292	1.664	1.99	2.639	2.887	3.416
90		1.291	1.662	1.987	2.632	2.878	3.402
100		1.29	1.66	1.984	2.626	2.871	3.391
120		1.289	1.658	1.98	2.617	2.86	3.373
150		1.287	1.655	1.976	2.609	2.849	3.357
200		1.286	1.653	1.972	2.601	2.839	3.34
∞		1.282	1.645	1.96	2.576	2.807	3.291

Source: <http://www.medcalc.be/manual/mpage13-04b.php>

Appendix 2: Table of $Z_{\alpha/2}$ Distribution Corresponding to Different Level of Confidence α (for Session 11)

α	$Z_{\alpha/2}$	α	$Z_{\alpha/2}$	α	$Z_{\alpha/2}$	α	$Z_{\alpha/2}$
68.3%	1	86.4%	1.49	94.0%	1.88	97.7%	2.27
68.8%	1.01	86.6%	1.5	94.1%	1.89	97.7%	2.28
69.2%	1.02	86.9	1.51	94.3%	1.9	97.8%	2.29
69.7%	1.03	87.1%	1.52	94.4%	1.91	97.9%	2.3
70.2%	1.04	87.4%	1.53	94.5%	1.92	97.9%	2.31
70.6%	1.05	87.6%	1.54	94.6%	1.93	98.0%	2.32
71.1%	1.06	87.9%	1.55	94.8%	1.94	98.0%	2.33
71.5%	1.07	88.1%	1.56	94.9%	1.95	98.1%	2.34
72.0%	1.08	88.4%	1.57	95.0%	1.96	98.1%	2.35
72.4%	1.09	88.6%	1.58	95.1%	1.97	98.2%	2.36
72.9%	1.10	88.8%	1.59	95.2%	1.98	98.2%	2.37
73.3%	1.11	89.0%	1.6	95.3%	1.99	98.3%	2.38
73.7%	1.12	89.3%	1.61	95.4%	2	98.3%	2.39
74.2%	1.13	89.5%	1.62	95.6%	2.01	98.4%	2.4
74.6%	1.14	89.7%	1.63	95.7%	2.02	98.4%	2.41
75.0%	1.15	89.9%	1.64	95.7%	2.03	98.4%	2.42
75.4%	1.16	90.1%	1.65	95.9%	2.04	98.5%	2.43
75.8%	1.17	90.3%	1.66	96.0%	2.05	98.5%	2.44
76.2%	1.18	90.5%	1.67	96.1%	2.06	98.6%	2.45
76.6%	1.19	90.7%	1.68	96.2%	2.07	98.6%	2.46
77.0%	1.20	90.9%	1.69	96.2%	2.08	98.6%	2.47
77.4%	1.21	91.1%	1.7	96.3%	2.09	98.7%	2.48
77.8%	1.22	91.3%	1.71	96.4%	2.1	98.7%	2.49
78.1%	1.23	91.5%	1.72	96.5%	2.11	98.8%	2.5
78.5%	1.24	91.6%	1.73	96.6%	2.12	98.8%	2.51

α	$Z_{\alpha/2}$	α	$Z_{\alpha/2}$	α	$Z_{\alpha/2}$	α	$Z_{\alpha/2}$
82.3%	1.35	91.8%	1.74	96.7%	2.13	98.8%	2.52
82.6%	1.36	92.0%	1.75	96.8%	2.14	98.9%	2.53
82.9%	1.37	92.2%	1.76	96.8%	2.15	98.9%	2.54
83.2%	1.38	92.3%	1.77	96.9%	2.16	98.9%	2.55
83.5%	1.39	92.5%	1.78	97.0%	2.17	99.0%	2.56
83.8%	1.4	92.7%	1.79	97.1%	2.18	99.0%	2.57
84.1%	1.41	92.8%	1.8	97.1%	2.19	99.0%	2.58
84.4%	1.42	93.0%	1.81	97.2%	2.2	99.0%	2.59
84.7%	1.43	93.1%	1.82	97.3%	2.21	99.1%	2.6
85.0%	1.44	93.3%	1.83	97.4%	2.22	99.1%	2.61
85.3%	1.45	93.4%	1.84	97.4%	2.23		
85.6%	1.46	93.6%	1.85	97.5%	2.24		
85.8%	1.47	93.7%	1.86	97.6%	2.25		
86.1%	1.48	93.9%	1.87	97.6%	2.26		

Source: Iarossi, Giuseppe. 2006. The Power of Survey Design. A User's Guide for Managing Surveys, Interpreting Results, and Influencing Respondents.