

Data Gathering and Interpretation →

MELCS

- Collects data through observation and interviews
- Infers and explain patterns and themes from data

The module is divided into the following concepts, namely:

- Data Collection – Observation, Interview, and Focus Group Discussion
- Coding, and synthesizing themes from the data
- Analysis and Interpretation of Data



After going through this module, student/s will:

- 1.Be able to collect the data through interview, observation or focus group discussion;
- 2.Be able to infer and explain patterns and themes from the data



Ways in Data Collection

→ Participant Observation

It involves the researcher "getting to know" the people they're studying by entering their world and participating in that world. Observation may be covert (secret) or overt (open). Instruments used in Participant Observation: Field notes recorded in field notebooks. These data are records of what you experienced, what you learned through interaction with other people, and what you observed; and Audio and video recordings of participant observation.



Ways in Data Collection

→ In-depth Interview

in-depth interview is an open-ended, discovery-oriented method that is well suited for describing both program processes and outcomes from the perspective of the target audience or key stakeholder. Researchers engage with participants by neutrally posing questions, listening attentively to participants' responses, and asking follow-up questions and probes based on those responses.



Ways in Data Collection

→ Focus Group Discussion (FGD).


Participants should have something in common. Carefully consider the demographics of participants. Repeat each demographic group 3-4 times for comparison. First name only on name tags for each person. Tips in communicating: Speak slowly and finish your words and sentences; Learn basics of your foreign native language and culture (verbal and non-verbal); Avoid using idioms and or slangs. Focus in FGD: Themes – key answers then allow them to discuss and expound.



Research Methodology

→ 1. Research Design


a systematic plan of research. It explains the variables/or concepts of the study. It also explains the Data Collection Techniques: Participant Observation; In-depth Interview and Focus Group Discussion. And the possible output of the study could be included.



Research Methodology

→ 2. The Research Environment.


The research environment is the place where the study is conducted. Other authors call this the research locale. This portion in the research report proposal provides necessary information about the place or the environment where the researcher conducts his/her study



Research Methodology

→ 3. The Research Participants / Subjects


This section in a research report describes the population or samples of the study. This will indicate the characteristics of the elements from which the samples will be taken. This elaborates on how the samples will be chosen.



Research Methodology

→ 4. The Research Instruments

This part of the research report describes the tools for data collection. Tools refer to the questionnaire or data gathering instrument to be constructed, validated, and administered. Tools can also be an interview guide and/ or checklist.



Research Methodology

→ 5. The Research Procedure.

This is a step by step presentation of the different stages of the research. Particularly in the administration and retrieval of the research instrument. The research procedure also traces the data collection data, data processing, analysis, and interpretation. Presents the Calendar of Schedules.

→ **HOW TO COLLECT DATA IN QUALITATIVE RESEARCH.**

→ THE DATA COLLECTION PROCESS IS NOT AN END IN ITSELF. THE CULMINATING ACTIVITIES OF QUALITATIVE INQUIRY ARE ANALYSIS, INTERPRETATION, AND PRESENTATION OF FINDINGS. THE CHALLENGE IS TO MAKE SENSE OF MASSIVE AMOUNTS OF DATA, REDUCE THE VOLUME OF INFORMATION, IDENTIFY SIGNIFICANT PATTERNS, AND CONSTRUCT A FRAMEWORK FOR COMMUNICATING THE ESSENCE OF WHAT THE DATA REVEAL.

THE CHALLENGING PART IN QUALITATIVE IS WORKING WITH DATA, ORGANIZING IT, BREAKING IT INTO MANAGEABLE UNITS, SYNTHESIZING IT, SEARCHING FOR PATTERNS, DISCOVERING WHAT IS IMPORTANT AND WHAT IS TO BE LEARNED, AND DECIDING WHAT YOU WILL TELL OTHERS.



Steps in Data Collection:



1. You have to know the direction, the focus and the scope and limitation of your study;
2. You have to prepare the main questions and probing questions to be asked;
3. Get ready with your field notes and transcript;
4. You should have the appropriate sample of right subjects;
5. Schedule for interview
 - 5.1 Process the interview based on standards and protocols whether you are doing PO, II, or FGD.
 - 5.2 Make sure to clarify the answers and generate authentic and unbiased responses.
 - 5.3 Record the proceeding appropriately.



Coding and Drawing Themes



These lets you make sense of and analyze your data. For qualitative studies, it can help you generate a general theory. Coding facilitates the organization, retrieval, and interpretation of data and leads to conclusions based on that interpretation.

Content analysis is a method of coding qualitative and/or quantitative narrative data to identify the prevalence of key themes and issues about a particular context. Table 1 presents the elements of coding.

No	Word/theme	Code	Features	Dispositions
1	Drivers for change	1	i- opportunity ii-problem iii- more efficient iv-more effective	a. Positive b. Negative c. Neutral
2				
3				

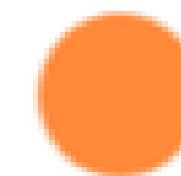
No. - refers to the number of responses on a specific question or number of respondent

Word/Theme – Key words or topic sentence that captures the thoughts of the respondent

Code – Number of coded theme (1 theme = 1 code)

Features: Direct explanation of the themes. Meaning of the theme base on the understanding of the respondent

Disposition – mood or behavioral manifestation of the respondent during the conversation



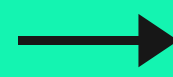
→ **EXAMPLE. 8 RESPONDENTS ARE ASKED TO DEFINE LOVE... BASED ON THEIR ANSWERS, HERE ARE THE NARROWED THEMES AND CODES:**

R1: YOU KNOW TRUE LOVE WHEN YOU WILL LAY DOWN YOU'RE LIVING FOR THE ONES YOU LOVE WITHOUT EVEN THINKING ABOUT IT. LOVE IS SELFLESS. PUSH THEM TO SAFETY EVEN KNOWING YOU WILL NOT SURVIVE. IF YOU HAVE TO PONDER WHETHER OR NOT YOU WOULD DO THIS YOU DO NOT TRULY LOVE. THAT IS ABSOLUTE FOR ME.



No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial	a. With conviction

R2: THE ONLY THING THAT WILL EVER CHANGE THE WORLD IS THE POWER OF L-O-V-E! THE DICTIONARY DEFINES LOVE AS A NOUN, BUT ALTHOUGH I CAN'T ARGUE THE DICTIONARY, I LOOK AT LOVE NOT ONLY AS A NOUN BUT MORE SO AS A VERB. LOVE ISN'T A THING WITHOUT ACTION! I CAN SAY I LOVE YOU UNTIL I'M BLUE IN THE FACE, BUT IT DOESN'T MEAN ANYTHING UNLESS I USE THE VERB SIDE, AND SHOW YOU!



No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial	a. With conviction
2	Noun & Verb	1	A. Action	b. Expressive

R3: LOVE IS NATURE'S WAY OF TRICKING PEOPLE INTO REPRODUCING. LOVE IS A TRICK. GRRRRRRGHHHHHHH. THAT'S HOW I HAVE 2 KIDS NOW WITH NO FATHER. I WAS USED AND ABUSED.

No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial	a. With conviction
2	Noun & Verb	1	A. Action	b. Expressive
3	Trick	1	A. Used & Abused	c. Angry



R-4: LOVE IS BEING KIND EVEN WHEN IT IS EVER SO HARD. LOVE IS SERVING OTHERS, AS JESUS SERVED US. YOU CAN SHOW OTHERS LOVE BY BEING HUMBLE. LOVE IS WHAT YOU MAKE OF IT. YOU CAN LOVE IT DEEPLY. YOU CAN LET OTHERS SEE THAT YOU LOVE THEM. YOU CAN LOVE WITHOUT END. YOU CAN LOVE UNCONDITIONALLY IF YOU ARE IN CHRIST. LOVE IS CARING EVEN WHEN IT IS JUST A LITTLE THING. LOVE IS LISTENING WHEN EVERYONE ELSE IS TRYING TO SOLVE THE PROBLEM. LOVE IS LOOKING INTO THEIR EYES AND FEELING WHAT THEY FEEL. IT'S BEING SAD WHEN THEY ARE SAD AND CHEERING THEM UP. LOVE IS BEING FULL OF JOY WHEN THEY ARE FULL OF JOY. WHEN YOU ARE JOYFUL YOU ARE EXTREMELY HAPPY, DEEPLY AND WITHOUT CEASING.

No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial	a. With conviction
2	Noun & Verb	1	A. Action	b. Expressive
3	Trick	1	A. Used & Abused	c. Angry
4	Kind	1	A. Humility	a. Godly
	Caring	2	B. Feeling Others	b. Expressive
	Joyful	3	C. Extremely Happy	c. Very Happy



R -5: IT JUST CREATES SPARKS LIKE IT'S MAGICAL. YOU CAN'T HELP BUT SMILE WHEN YOU LOOK AT THE ONE YOU LOVE. IT MAKES YOU BLUSH, FEEL AWKWARD AND YOU ALWAYS IMAGINE BEAUTIFUL THINGS THAT ARE OF THIS WORLD.

No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial	a. With conviction
2	Noun & Verb	1	A. Action	b. Expressive
3	Trick	1	A. Used & Abused	c. Angry
4	Kind	1	A. Humility	a. Godly
	Caring	2	B. Feeling Others	b. Expressive
	Joyful	3	C. Extremely Happy	c. Very Happy
5	Magical	1	A. Imagination	a. Ecstatic



R-6: I WOULD DESCRIBE LOVE AS NOTHING BUT A RISK. THEY CAN MAKE YOU FEEL INVINCIBLE, YET CAN SHATTER YOUR HEART THE NEXT MOMENT. IT'S A SCARY FEELING, BUT MOST PEOPLE USE IT AS AN EXCUSE TO TAKE RISKS IN LIFE. LOVE IS A FIRE THAT IS CONSTANTLY FUELED BY TOUCH, DIALOGUE, AND OTHER SIMPLE WAYS TO INTERACT. WE AS PEOPLE HAVE THE CHOICE TO DECIDE WHETHER OR NOT WE GAMBLE TO A POSSIBILITY OF GAIN OR LOSS. WE MOSTLY LOST IN THE END. OUCH!

No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial	a. With conviction
2	Noun & Verb	1	A. Action	b. Expressive
3	Trick	1	A. Used & Abused	c. Angry
4	Kind Caring Joyful	1	A. Humility	a. Godly
		2	B. Feeling Others	b. Expressive
		3	C. Extremely Happy	c. Very Happy
5	Magical	1	A. Imagination	a. Ecstatic
6	Risk	1	A. Shatter your heart	a. Scared
	Fire	2	B. Fueled by Interaction	b. Deprived



R-6: I WOULD DESCRIBE LOVE AS NOTHING BUT A RISK. THEY CAN MAKE YOU FEEL INVINCIBLE, YET CAN SHATTER YOUR HEART THE NEXT MOMENT. IT'S A SCARY FEELING, BUT MOST PEOPLE USE IT AS AN EXCUSE TO TAKE RISKS IN LIFE. LOVE IS A FIRE THAT IS CONSTANTLY FUELED BY TOUCH, DIALOGUE, AND OTHER SIMPLE WAYS TO INTERACT. WE AS PEOPLE HAVE THE CHOICE TO DECIDE WHETHER OR NOT WE GAMBLE TO A POSSIBILITY OF GAIN OR LOSS. WE MOSTLY LOST IN THE END. OUCH!

No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial	a. With conviction
2	Noun & Verb	1	A. Action	b. Expressive
3	Trick	1	A. Used & Abused	c. Angry
4	Kind Caring Joyful	1	A. Humility	a. Godly
		2	B. Feeling Others	b. Expressive
		3	C. Extremely Happy	c. Very Happy
5	Magical	1	A. Imagination	a. Ecstatic
6	Risk	1	A. Shatter your heart	a. Scared
	Fire	2	B. Fueled by Interaction	b. Deprived



R-7 LOVE IS SETTING FREE AND LETTING GO. UNREQUITED LOVE DESERVES TO SLEEP IN SILENCE. IT'S HAPPY TO KNOW THAT THE PERSON YOU LOVE IS SO NEAR AND YET SO FAR. AND SOME WHO TRULY LOVES SOMEONE MUST SET FREE OF THE OTHER PERSON. KNOWING THAT THAT PERSON CAN NEVER BE YOURS.

No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial	a. With conviction
2	Noun & Verb	1	A. Action	b. Expressive
3	Trick	1	A. Used & Abused	c. Angry
4	Kind	1	A. Humility	a. Godly
	Caring	2	B. Feeling Others	b. Expressive
	Joyful	3	C. Extremely Happy	c. Very Happy
5	Magical	1	A. Imagination	a. Ecstatic
6	Risk	1	A. Shatter your heart	a. Scared
	Fire	2	B. Fueled by Interaction	b. Deprived
7	Setting Free	1	A. Unrequited Love	a. Sad



R-8: LOVE IS STUPID. PEOPLE WILL USE YOU, ABUSE YOU, AND LEAVE YOU HELPLESS, HOPELESS, AND CARELESS.

Initial Coding and Screening				
No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial	a. With conviction
2	Noun & Verb	1	A. Action	b. Expressive
3	Trick	1	A. Used & Abused	c. Angry
4	Kind Caring Joyful	1	A. Humility	a. Godly
		2	B. Feeling Others	b. Expressive
		3	C. Extremely Happy	c. Very Happy
5	Magical	1	A. Imagination	a. Ecstatic
6	Risk	1	A. Shatter your heart	a. Scared
	Fire	2	B. Fueled by Interaction	b. Deprived
7	Setting Free	1	A. Unrequited Love	a. Sad
8	Stupid	1	A. Use, Abuse, Leave	a. Angry



AFTER YOU HAVE CREATED THE INITIAL CODING AND SCREENING TABLE. REVIEW THE RESPONSES AND FIND PATTERNS OR THEMES THAT ARE THE SAME, SIMILAR, COMMON, OR ALIGNED WITH EACH OTHER. THEN RE-CREATE ANOTHER SET OF THEMES BY CLUSTERING THE RESPONSES.

Initial Coding and Screening				
No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial	a. With conviction
2	Noun & Verb	1	A. Action	b. Expressive
3	Trick	1	A. Used & Abused	c. Angry
4	Kind Caring Joyful	1	A. Humility	a. Godly
		2	B. Feeling Others	b. Expressive
		3	C. Extremely Happy	c. Very Happy
5	Magical	1	A. Imagination	a. Ecstatic
6	Risk	1	A. Shatter your heart	a. Scared
	Fire	2	B. Fueled by Interaction	b. Deprived
7	Setting Free	1	A. Unrequited Love	a. Sad
8	Stupid	1	A. Use, Abuse, Leave	a. Angry

Final Coding and Screening				
No	Theme	Code	Features	Disposition
1	Selfless	1	A. Sacrificial B. Humility C. Feeling Others D. Extremely Happy E. Unrequited Love	a. Expressive b. Happy c. Sad
2	Interactive	1	A. Action B. Imagination C. Fueled by Interaction	a. Expressive b. Ecstatic
3	Risk	1	A. Shatter your heart B. Use, Abuse, Leave	a. Scared b. Angry



YOUR FINAL CODING AND THEME TABLE SHOULD BE EXACTLY LIKE THIS.
READY FOR INTERPRETATION AND ANALYSIS.

Final Coding and Screening		
No	Theme	Key Informants
1	Selfless	R1, R4, R7
2	Interactive	R2, R5, R6
3	Risk	R3, R8



Inferring and Explaining Patterns and Themes from data



Based on your final coding table, present the table and provide a comprehensive explanation, analysis, and interpretation of the data. You're the original responses in inferring patterns of analysis and interpretation.

Elements to consider in the Presentation of Findings and Analysis:

1. Responses and Answers
 - 1.1 verbatim
 - 1.2 translation
 - 1.3 triangulation



Inferring and Explaining Patterns and Themes from data

- 2. Mood and Disposition
- 3. Coding, themes, and patterns
- 4. Analysis or interpretation
 - 4.1 Writer's Point of view
 - 4.2 Literature review



EXAMPLE. WHAT IS THE IMPACT OF THE GUIDED AND IMMERSIVE TRAINING APPROACH TOWARDS THE ATTITUDE AND INTEREST OF THE GRADE 11 STUDENTS IN CONDUCTING THE SCIENCE INVESTIGATORY PROJECT?

TABLE 1. IMPACT OF THE TRAINING APPROACH

Themes	Key Informants
Develops Inquisitive Mind and Attitude	Atom Neuron Cell Tissue Star
Develops Creative Mind and Attitude	Neuron Cell Tissue Star
Develops passion and excitement for Research	Neuron Cell Tissue Star Atom

→ TABLE 1 PRESENTS THE IMPACT OF THE GUIDED AND IMMERSIVE TRAINING APPROACH TOWARDS THE ATTITUDE AND INTEREST OF THE GRADE 11 STUDENTS IN CONDUCTING THE SCIENCE INVESTIGATORY PROJECT. THE DATA WAS GATHERED THROUGH A QUALITATIVE APPROACH USING THE FOCUS GROUP DISCUSSION OF THE TEAM LEADERS OF THE FIVE RESEARCH TEAMS. BASED ON THE DISCUSSION, THREE (3) THEMES EMERGE AND THESE ARE: DEVELOPS INQUISITIVE MIND AND ATTITUDE; DEVELOPS CREATIVE MIND AND ATTITUDE AND DEVELOPS PASSION AND EXCITEMENT FOR RESEARCH.

ON THE THEME "DEVELOPS INQUISITIVE MIND AND ATTITUDE," FIVE (5) KEY INFORMANTS AGREED THAT THE IMPLEMENTATION OF THE GUIDED AND IMMERSIVE TRAINING APPROACH HAS IMPROVED THE INQUISITIVE MIND AND ATTITUDE OF THE STUDENTS. THIS MEANS THAT THE THEORETICAL SKILLS OF THE STUDENTS ON PARTS; ABILITY TO CONCEPTUALIZE A QUESTION/OBJECTIVES FOR RESEARCH HAVE BEEN HONED. NEURON SAID, "THE INPUTS OF THE MENTOR IN THE CLASSROOM AND THE EXPERTS IN RESEARCH HAVE CLARIFIED EVERYTHING ABOUT THE DO'S AND DONT'S ABOUT RESEARCH."

→ CELL ADDED, "WHAT WE ENJOY IN THE 3 MONTHS TRAINING AND EXPOSURE IS THAT WE ARE ALLOWED TO THINK OF OUR CONCEPTS EVEN IF IT STARTED TO BE SO IMPOSSIBLE TO DO, BUT WE WERE HAPPY TO KNOW THAT IT GOT CLEARER AS WE PROGRESSED IN THE STUDY." STAR EMPHASIZED, "WE STARTED WITH A QUESTION AND A PUZZLE IN OUR MIND AND WE WERE GIVEN THE SUPPORT TO ACCOMPLISH WHAT SEEMED TO UNSURE FOR US AT FIRST." SHAUN (2018), IN HIS REVIEW ABOUT THE TRAINING THAT COULD CHANGE ONE'S ATTITUDE, COULD BE VERY SPECIFIC DEPENDING ON THE NATURE AND INTEREST OF EVERY INDIVIDUAL. SOME WOULD HAVE A POSITIVE EFFECT WHILE SOME WOULD HAVE MILD TO NONE.

ON THE THEME "DEVELOPS CREATIVE MIND AND ATTITUDE," FOUR (4) KEY INFORMANTS AGREED THAT THE IMPLEMENTATION OF THE GUIDED AND IMMERSIVE TRAINING APPROACH HAS IMPROVED THE CREATIVE MIND AND ATTITUDE OF THE STUDENTS.

→ THIS MEANS THAT THE CREATIVE AND MANIPULATIVE SKILLS OF THE STUDENTS WERE TESTED AND DEVELOPED. CELL CITED," OUR STUDY ON ROBOTICS HAS ALLOWED US TO ENJOY HAVE FUN AND BROUGHT OUT OUR INNER CREATIVE SIDES. I NEVER KNEW I HAD IT IN ME WHEN I WAS ABLE TO MECHANICALLY OPERATE A SENSOR AND DYNAMO FOR OUR ROBOT PROJECT. OUR GRATITUDE TO THE TRAINER AND ROBOTICS EXPERT WHO CHALLENGED US AND WERE SO PATIENT OF TRAINING US." TISSUES ADDED, "OUR EXPERIMENTAL PROJECT WAS SO TEDIOUS BUT WE WERE SO INNOVATIVE IN THE PROCEDURES AND THE USE OF THE TECHNIQUES REQUIRED OF THE STUDY. THE PRODDING OF OUR MENTOR WAS VERY VERY VERY USEFUL."STAR SHARED, "I WAS SURPRISED THAT I WAS ABLE TO CREATE SOMETHING THAT I WOULD NOT HAVE DONE WITHOUT THE EXTENSIVE TRAINING AND SUPPORT OF THE PEOPLE WHO MADE THE PROGRAM POSSIBLE." MITRA (2015) GAVE HIS INSIGHTS THAT CREATIVE MINDS CAN BE TRAINED AND CAN BE INFLUENCED BY THE GROUP.

→ ON THE THEME "DEVELOPS PASSION AND EXCITEMENT," FIVE (5) KEY INFORMANTS AGREED THAT THE IMPLEMENTATION OF THE GUIDED AND IMMERSIVE TRAINING APPROACH HAS DEVELOPED THE PASSION AND EXCITEMENT TO CONDUCT THE RESEARCH. THIS MEANS THAT THE STUDENTS ARE ENJOYING AND LEARNING THE RESEARCH IN THE MOST CONDUCIVE AND SUPPORTIVE WAY POSSIBLE. STAR SHARED, "WE WERE NERVOUS AND APPREHENSIVE AT FIRST AND WE FEEL THAT THE TRAINING PROGRAM COULD BE VERY STIFF AND BORING. HOWEVER, AS WE PROGRESSED, I FEEL EXCITED ABOUT FOLLOWING AND DOING THE NEXT STEPS OF OUR EXPERIMENTS.

SOMETIMES, EVEN IN MY SLEEP, I DREAMT OF THE ACTIVITY AND WHAT WE ARE DOING IN THE LABORATORIES. I FEEL LIKE I AM A REAL SCIENTIST. I WILL ENROLL AND JOIN AGAIN NEXT YEAR. NEURON DISCUSSED, "THE BEST PART WAS WHEN WE WERE REAPING AWARDS IN THE DISTRICT, DIVISION, AND REGIONALS. IT WAS THE BEST FEELING EVER.

→ I AM FULFILLED KNOWING THAT I HAVE ACCOMPLISHED.IT IS LIKE EVERY DAY I WANNA WAKE UP EARLY IN THE MORNING AND GO TO THE LABORATORY TO CONTINUE OUR RESEARCH AND EXCITED TO FIND OUT THE OUTCOME.” ACAR (2020) IN HIS ENCOUNTER AS A TRAINER, NOTED THAT TRAINING IN RESEARCH COULD POSITIVELY DEVELOP PASSION AND EXCITEMENT TO STUDENTS. BEING ON THE VERGE OF COMPLETING SOMETHING SPECTACULAR COULD MEAN A LOT OF THINGS TO STUDENTS.

End of
The
Lesson
