SHS

Inquiries, Investigation & Immersion

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The Editors

Inquiries, Investigation & Immersion

Guide in Using PIVOT Learner's Material

For the Parents/Guardian

This module aims to assist you, dear parents, guardians, or siblings of the learners, to understand how materials and activities are used in the new normal. It is designed to provide the information, activities, and new learning that learners need to work on.

Activities presented in this module are based on the Most Essential Learning Competencies (MELCs) for Inquiries, Investigation and Immersion as prescribed by the Department of Education.

Further, this learning resource hopes to engage the learners in guided and independent learning activities at their own pace and time. Furthermore, this also aims to help learners acquire the needed 21st century skills while taking into consideration their needs and circumstances.

You are expected to assist the child in the tasks and ensure the learner's mastery of the subject matter. Be reminded that **learners have to answer all the activities in their own notebook**.

For the Learners

The module is designed to suit your needs and interests using the IDEA instructional process. This will help you attain the prescribed grade-level knowledge, skills, attitude, and values at your own pace outside the normal classroom setting.

The module is composed of different types of activities that are arranged according to graduated levels of difficulty—from simple to complex. You are expected to **answer all activities on separate sheets of paper** and submit the outputs to your respective teachers on the time and date agreed upon.

PARTS OF PIVOT 4A LEARNER'S MATERIAL

	Parts of the LM	Description
Introduction	What I need to know	The teacher utilizes appropriate strategies in presenting the MELC and desired learning outcomes for the day or week, purpose of the lesson, core content and relevant samples. This allows teachers to maximize learners awareness of their own knowledge as regards content and skills required for the lesson
	What is new	
Development	What I know	The teacher presents activities, tasks , contents of value and interest to the learners. This shall expose the learners on what he/she knew, what he /she does not know and what she/he wanted to know and learn. Most of the activities and tasks must simply and directly revolved around the concepts to develop and master the skills or the MELC.
	What is in	
	What is it	
Engagement	What is more	The teacher allows the learners to be engaged in various tasks and opportunities in building their KSA's to meaningfully connect their learnings after doing the tasks in the D. This part exposes the learner to real life situations /tasks that shall ignite his/ her interests to meet the expectation, make their performance satisfactory or produce a product or performance which lead him/ her to understand fully the skills and concepts .
	What I can do	
	What else I can do	
Assimilation	What I have learned	The teacher brings the learners to a process where they shall demonstrate ideas, interpretation, mindset or values and create pieces of information that will form part of their knowledge in reflecting, relating or using it effectively in any situation or context. This part encourages learners in creating conceptual structures giving them the avenue to integrate new and old learnings.
	What I can achieve	

Preparing, Conceptualizing and Focusing a Research Plan
Lesson

I

Congratulations! You have reached the final course in your research journey: the *Inquiries, Investigation and Immersion.*

It is sure that you have learned so much about qualitative and quantitative research methods from your previous research classes. With that, you are now ready to carry out your best research ideas about any topic that interests you the most!

In this learning material, you will study how to prepare a research plan and how to execute it to achieve your goals and objectives as a young researcher. This will serve as your most valuable guide towards a successful research work.

At the end of this course, you are expected to present your research work to your fellow researchers, research adviser and a panel of experts to gather constructive remarks and suggestions to enhance your work.

You may have heard that research is complicated and that it is difficult to do. Many students, and even professionals, would have that hesitation to doing a research. That is only one of the many cliché misconceptions about research.

Research is just any other task that we do. It is like a celebration or a party that in order to be meaningful and successful, serious planning and careful execution are necessary. It needs time and proper organization of things and ideas. Preparedness is the key!

Moore (2009), a contributor to Ezine articles offers five (5) things worth considering when doing a research work.

1. **Never choose a topic that is out of personal interest.** The success rate of your research work is equal to the level of your interest and drive to do such a research. It is always easier to do something that you really like to do and be engaged with. Do not let yourself in the situation of losing that high level of enthusiasm towards your own research.

2. **Never use needless words.** Less is more. Sometimes, you would think that having so much to say when it comes to research is an advantage. However, we have to realize that the longer or the wordy our sentences become, the more they appear less relevant and needless to be listened to or read.

2. **Keep thoughts intact.** Establishing that sense of focus on your research paper is one of the most important characteristics that you should always observe. Clattering ideas will not make your paper enticing.

3. **Don't let failure distract you.** Failure is normal. It is okay to fail at times in order for us to realize what we have to do. Failure is an opportunity to recreate and refine our research work at its best. Do not be afraid to fail!

4. **Always consult the opinion of other people.** Feedback from others especially of a more knowledgeable others is always good to hear. It widens our understanding and opens higher chances of making the research better! Collaboration and teamwork do not only make the task lighter, but rather more successful!

Always keep and observe these simple yet useful reminders as you push through in your quest towards becoming the best researcher you could ever be!

The activities below will help you activate your research skills and interests, so you can start efficiently.

D

Learning Task 1: On your notepad, write random words that come to your mind. Any word will do. Take your thoughts in the situation where you find yourself most interested in. Do this in three (3) to five (5) minutes.

The random words that you have written on your notepad are your *personal interest.* These are the topics or subjects that first inspires your interest. These are the concepts and constructs that your mind has which will serve as the baseline of your formal research topic.

Now, go back and look at the random words that you have written. Study them and think about each word again. Choose and encircle only three(3) from the random words that appear to be relevant, timely and interesting for you.

At this time, you just have decided your *research interest*. It pertains to personal interests that has been screened and chosen by means of its meaning, coverage, relevance and focus.

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After refining your research interest, you will be able to have a ***preliminary topic***. This topic is already researchable, but should still be narrowed where gaps will arise. Check how to perform a few more steps below to construct your research topic.

Example of Research Interest: ***agriculture***

Perform the same steps with your own topic interests. Write it on your notebook. Do this in 30 minutes.

Well done! You have transformed your *personal interest* into *research interest* and now you have a *preliminary topic* for your research work. You are now geared-up towards the next steps of the research process.

1. Give specific description about the topic.	**agriculture during pandemic**
2. Mention an aspect of the specified topic.	**possibility of doing agriculture at home**
3. Note down extra-specifics about the topic.	**planting/growing indoor crops**
4. Construct a topic-statement.	**Growing indoor crops can help lessen household expenses while maintaining healthy lifestyle.**
5. Refine it by adding the element of time, place and relationship.	**Indoor agriculture supports healthy lifestyle and promotes practical living.**

The previous task is your good starting point in pushing through with your research work. This is your springboard towards the next bigger leaps! The next parts of this learning material will be focusing on the *"research plan"* itself and how to prepare it.

The Research Plan

In its simplest definition, a research plan is a document that includes preliminary and basic information about the research work that you would like to do. It may contain details about the topic that you intend to do, its importance or significance, the steps that you have already done, and the next actions that you are going to do in order to meet your targets or until you have answered your research questions. Technically, this is not a research proposal yet but more likely a concept paper.

Although there is no institutionalized formatting of a research plan just yet, the following are its basics:

I. Basic Information

This part of the research plan contains your basic information. For a Senior High School Learner like you, it would be beneficial to include the following information:

A. Complete Name

B. Learner Reference Number (LRN)

C. School and Address

D. Track and Strand

E. Complete Home Address

II. Background

Short presentation of basic concepts and information about the research topic shall be presented in this section. Include few relevant readings and literature which serve as major background of your paper. Cite also your motivation for the topic and the reasons and importance of your study.

III. Objectives and Methods

Cite in this section the long term and short term objectives or targets of your research work. Indicate also whether you are using quantitative, qualitative or mixed method of research.

IV. Working Framework

Through an illustrative illustrations or diagrams, show the variables or concepts that are involved in your paper. Show the connections and relationship and role of these important constructs in achieving the results of the study. The Input-Process-Output Model is commonly used. However, feel free to execute your creativity and ideas in crafting the framework for your paper.

V. Assumptions

This part contains the expected outcome of the study. What results do you anticipate? It is better that you construct positive results regarding the research that you plan to undertake. This can be in numbered form, bulleted, or in a paragraph or two.

VI. Timetable

You may have heard about Gantt Chart of activities. This section contains the same concept but in simplified and detailed format in order for you to plan things out even more systematically and productively. A timetable guides you to be able to work on important activities necessary for you to complete your research. Please study the example timetable below to get ideas on how a plan looks like and what information can be included.

Date	Objective(s)	Persons Involved	Resources Needed	Output
October 8, 2020	Read books, essays, articles about initial topic.	The Researcher	books, newspapers, print materials	A. List of concepts and definitions related to the initial topic B. List of references read
October 15, 2020	Formulate Background of the Study	The Researcher Teacher of Research	List of concepts and definitions related to the initial topic List of references used	A. Draft of the Background of the Study
October 16, 2020	Submit the draft of the Background of the Study to the Teacher of Research for checking	The Researcher Teacher of Research	Draft of the Background of the Study Internet Access	A. Receipt of Submission B. Teacher's Feedback

VII. List of References

Present here the references that you used in the formulation of the research plan. Use the format of *the American Psychological Association (APA)* 6th or 7th edition style/format in constructing the entries. Ensure that the entries are alphabetically sequenced. Please revisit the styling book, so you will be guided in making the citations.

These tasks seem not so new to you, right? These are a few concepts and tasks which you have encountered already in your previous research classes. If you have inquiries and clarifications about these matters, do not hesitate to reach your subject teacher, or you may ask any of your family members who have a good grasp about these details, so they can assist you.

E ─────────────────────────────

After having a good background about the definition, parts, and purposes of a research plan, it is now time for you to give it a try!

Learning Task 2: From the previous activity, you have constructed three (3) preliminary research topics. Now, choose one of them that you find most interesting. Write it on your notebook.

> **Most Interesting Preliminary Research Topic**
>
> _____
>
> _____
>
> _____
>
> _____
>
> _____
>
> _____
>
> _____

This preliminary research topic will serve as your initial research topic which you are about to plan for. Now, on a typewriting/intermediate paper write a draft of your own research plan with the parts that were discussed earlier.

```
┌─────────────────────────────────────────────────────────────────────┐
│                          Research Plan                              │
│ Initial Research Topic: _____│
│ I. Basic Information                                                 │
│        A. Complete Name : _____│
│        B. LRN : _____│
│        C. School and Address:_____│
│        D. Track and Strand:_____│
│        E. Complete Home Address:_____│
│        _____│
│ II. Background                                                      │
│ III. Objectives and Methods                                         │
│ IV. Working Framework                                               │
│ V. Assumptions                                                      │
│ VI. Timetable                                                       │
│ VII. References                                                     │
└─────────────────────────────────────────────────────────────────────┘
```

A

You just finished your research plan following the given guidelines. Your work is a great step towards a successful research! The following scoring rubric will help you evaluate your work and for you to see where your work needs enhancement. One of your classmate shall also evaluate your work as well as your subject teacher.

Learning Task 3: Evaluate your work using the scale given below. Once you are done, ask one classmate to do the same. Take note that if going out of the house is not yet allowed, try other means like sending your work to your classmate. You may also ask any member of the family who can perform the task. Write the scores on your notebook.

4	-	Exceeds Expectations
3	-	Meets Expectations
2	-	Fairly Meets Expectations
1	-	Does Not Meet Expectations

Success Indicators	Self	Classmate	Subject Teacher	Average
1. Basic information about the researcher is complete, accurate, and has no erroneous details.				
2. Background has brief but essential basic concepts and information about the research topic from relevant readings, literature and importance of the study.				
3. Objectives and Methods include long term and short term objectives or targets of your research work. The plan has specific method to be used.				
4. The working framework shows the variables or concepts that are involved in the paper, their connections and relationship in achieving the results of the study. It is creatively done.				
5. The assumptions clearly indicate the expected results in numbered form, bulleted, or in a paragraph or two.				
6. The timetable contains complete details about the possible activities and steps that the research may need.				
7. The research plan has complete list of references in American Psychological Association (APA) 6th or 7th edition style/ format and are alphabetically arranged.				
Overall Average				____/28

To know your final scores, you have to add the points in every success indicator and divide it by three. You would have to know the sum of all the average scores that you obtained in every section of the research plan to know your overall score.

From this activity, you can identify which part of your research plan you should improve, enhance or still develop.

Formulating Clear Statement of Research Problem

Lesson

I

You have truly widen your perspectives about research as a discipline and as an engaging task! Having accomplished all the tasks in the previous lesson only shows that you have the guts and all what it takes to be a successful researcher!

Let's get it on towards another step in making you the best researcher that you can ever be! You are about to refine your research skills specifically in terms of formulating clear statements of research problems.

A research problem is a statement of a concern in any area, a problem that needs immediate solution, a recurring difficulty that is necessary to be taken out of the situation, or a practical question from a scholarly inquiry in different disciplines.

As an intelligent recall, Clemente, Julaton, & Orleans (2016) noted some criteria for evaluating whether or not a research problem or statement is good. May it be quantitative, qualitative, or mixed method research, research problem should bear the S.M.A.R.T. characteristics.

Specific. This refers to the quality of being exact or particular. Research problem statement should be able to communicate the specific inquiry or question that needs to be answered.

Measurable. This is never an issue in a quantitative method of research. However, in terms of qualitative research method, the measurability of a research statement refers to its epistemological aspect or the state of being objectively observable. More than that, instruments of data-gathering should be present.

Attainable. The research questions should be easily answered or achieved when the appropriate procedures are performed.

Realistic. The possibility of being carried out should always be observed in formulating the research problem especially when there is a need for experimentations and observations.

Time-Bound. Time is an important element in the research work. The research questions should be narrowed enough to be attained within the set time frame.

Meanwhile, Calderon and Gonzales (2014) specified general guidelines in formulating the general problem and the specific sub-problems or specific questions.

1. The general statement and specific sub-questions should be formulated before carrying out actions in the conduct of the research work.

2. State the specific sub-problems in interrogative form.

3. The specific question should bear only one clear meaning.

4. Every question should not be dependent apart from other questions — that is requiring answers afar from other questions.

5. It must be based on facts and phenomena.

6. The answers to each specific question should be contributory to the development of the general problem statement.

Doing well! It is sure that you have already gained skills in formulating research questions prior to this subject area. However, it is an advantage to review the basics before getting to a higher level.

Types of Research Questions

The following are the four types of research questions in terms of their purpose according to Clemente, Julaton, & Orleans (2016).

1. ***Factor-isolating questions****.* The major concern of these questions is to categorize, label, or name factors and situations that exist or those that are present in the perimeter of the research work.

Examples:

- *What are the difficulties encountered by Senior High School learners in the New Normal set-up of educational system in the country?*

- *What are the possible contribution that parents and the community can extend to schools to overcome the difficulties encountered by Senior High School learners in the New Normal educational system?*

2. ***Factor-relating questions****.* Establishing relationships between and among factors that have been identified is the purpose of these questions.

Examples:

- *What relationship exists between the socio-economic status of family to the learning ability of students?*

- *Is there a significant relationship between the choice of words of learners in essay writing and the speaking skills of learners?*

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3. ***Situation-relating questions.*** These questions emphasize the observable changes that happen to variable/s involved in the study as a result of experimentation.

Examples:

- *What is the effect of the modular distance learning to the learning style and behavior of learners?*

- *What are the impacts of flexible learning options and modalities in the educational system in the Philippines?*

4. ***Situation-producing questions.*** These questions open the opportunity to create a definite course of action, policies or conditions in order to accomplish or to achieve a certain goal.

Examples:

- *What project could be designed to empower parents and the community to be involved in the educational system?*

- *What action plan could be proposed to strengthen the coordination between the family, the community and the school in achieving relevant education?*

Having these as basic guidelines, what do you think is appropriate for your research work? Can you apply all these types of questions in formulating the questions for your own research?

The next learning tasks will help you craft research questions that are S.M.A.R.T. and in compliance with the guidelines that were discussed. Exercise your mental nerves by accomplishing the following task. **You can do it!**

D

Learning Task 1: From your initial research topic, construct different types of questions according to purpose. Do this on your notebook.

Initial research topic:	
Factor-isolating question	
Factor-relating question	
Situation-relating question	
Situation-producing question	

Learning Task 2: To ensure that you have quality research problems/questions, assess your own questions using the SMART characteristics of a good research problem. Copy the table on your notebook and mark the column with a check (✓) if you think it bears the specified quality in each column. Otherwise,, write a note how to enhance that question to have such characteristic.

Type of Question	Research Questions	S Specific	M Measurable	A Attainable	R Realistic	T Time-Bound
Factor-isolating question						
Factor-relating question						
Situation-relating question						
Situation-producing question						

E

Learning Task 3: Identify the characteristic of a good research problem according to Clemente, Julaton, & Orleans (2016) described in each number. Write your answer on the space before each number.

_____1. This characteristic pertains to maximizing the capacity and abilities of the researcher to solve the research problem.

_____2. This is attributed to the use of instruments in order to gather quantifiable or observable data.

_____3. A research problem should be bound to what exist in the norm and practicality in terms of the conduct of experimentations.

_____4. This quality of a research problem concerns the possibility of being carried out in a given or target timeline.

_____5. This refers to the quality of a research question that is being clearly stated or identified.

Learning Task 4: Classify the following research questions/problems based on the four types of research questions based on their purpose. Write only the letter of the correct answer on the space before each number.

   A. Factor-isolating questions   **C. Factor-relating questions**
   B. Situation-relating questions   **D. Situation-producing questions**

_____1. What appropriate learning strategy or technique could be used to maintain efficient learning at home?

_____2. What is the effect of the changes in the communities due to COVID-19 pandemic?

_____3. What is the relationship between the social distancing and flattening the curve?

_____4. What are the factors contributing to increased of participation of parents in disaster risk reduction and management?

_____5. What is the meaning of the "pandemic" among schoolchildren ages 5-7?

_____6. Is there a significant difference between the level of optimism of people in the depressed areas before, during and after pandemic?

_____7. What can be the detrimental health effects of wearing facemask 8 hours straight?

_____8. What innovative devices/equipment can be developed as alternative protective device to against contagious diseases?

_____9. What platform is mostly used by learners and teachers in communication during pandemic?

_____10. What are the positive impacts of the pandemic to the health and medical community?

Learning Task 5: Choose four (4) questions from Activity B. Evaluate the questions whether they are SMART. Check the column of the characteristics of a good research problem that each question has. Otherwise, cite recommendations on how the question would have such a characteristic. Do this on your notebook.

Research Questions	**S** Specific	**M** Measurable	**A** Attainable	**R** Realistic	**T** Time-Bound

A

Great job! You did very well in the tasks! As expected, you have already gained sufficient skills in crafting statement of research problem.

Not only you were able to know the characteristics of a good research problem and the guidelines in formulating it, but you were also able to classify their type based on their purpose.

It is also indeed an achievement that you can now critique statement of research problem to identify where it could be further enhanced and developed. Really great!

This time, you are to write statement of research problems that you intend to answer in your own research.

Learning Task 6: Go back to your initial research topic and formulate general problem statements and specific statements of the problem. Do not forget to apply all the learning that you gained from this lesson. Do this on a clean sheet of paper.

Initial research topic:	
_____	
General and Specific Research Questions	*Comments and Suggestions of the Teacher of Research*
Do you have message for your subject teacher? Please use this space. _____ _____ _____	*This is intended for the response of the subject teacher.* _____ _____ _____

Ethically Selecting, Citing and Synthesizing Related Literature

Lesson

I

Getting so much better! You are getting near towards a successful research work! After having a concrete understanding of a research topic and the systematic ways of planning it as well as in crafting SMART and purpose-driven research problem statements in accordance with the acceptable guidelines, this section will broaden your background and knowledge about your initial research topic and the concepts and issues around it.

As you learn more about it through reading various materials, you will discover and be able to scholarly and ethically select, cite and synthesize related literature and studies. Before we jump in to that point, let us do a simple recall of these important concepts in writing a research.

Related Literature

A research should have a good review of existing knowledge that it will stand on. A research topic is more likely to become "researchable" if it is a determined *research gap* from the available literature and studies from various resources.

Literature in its conceptual definition refers to a collection of written work with a heightened and artistic use of words may it be fiction or nonfiction. However, in its operational definition in research, this terminology refers to published information in a particular subject area which sometimes covers a certain period of time.

Related literature can come and be taken from the following types of resources (Clemente, Julaton, & Orleans, 2016):

A. General references - books, monographs, conference manuals, research articles, professional journals and similar documents

B. Primary sources - academic research and university research journals and reputable organizations

C. Secondary sources - articles, analyses, essays, newspaper, single or multiple authored textbooks

D. Tertiary resources - books based on secondary sources that interprets the work of others.

One of the major tasks of a researcher, like you, is to review various references to survey theories and concepts about your research interest. This will give you a better perspective of your research topic and eventually identify the research gap.

PIVOT 4A CALABARZON

It is sure that you are now ready to delve deeper in reviewing related literature about your initial research topic! Maintain that level of enthusiasm and energy as we get into the real thing!

At this point, as you work on searching for information that is related to your research topic, you have to make considerations of some characteristics that make a material worth taking and citing. Go ahead and read them.

Characteristics of Materials to be Cited

Having recalled the definition of literature, its purpose, and sources. It is important to learn how to distinguish a good literature to be cited or included in the review. Calderon and Gonzales (2014) identified the following characteristics of ideal materials to be cited.

1. **Recency.** The materials that should be included in the review should be recent as much as possible. For general references, published materials 10 years ago are yet sound and valid. Meanwhile, primary, secondary and tertiary references within the last five years are ideal. Archived materials may also be used as reference for theories and concepts.

2. **Objectivity.** Since research is academic and scholarly, the materials should be fair, objective and bias-free. It should not favor any extreme and obvious vested interest aside from delivering facts, information, and findings.

3. **Relevance.** The weight of relevance of the material to the current research undertaking must be checked. Before citing it, it should bear essential information to clarify and deepen the issues and concepts of the research being conducted. Otherwise, the material should not be considered for the review.

4. **Conciseness.** The materials that the review should have must be sufficient enough, not too few and not too many, to provide the researcher and the readers strong insight about the general and specific problems that the research is trying to address or answer.

The number of related literature that a review should have for a senior high school research is only 4 to 6 local and international publications or materials. However, in higher education, graduate and post-graduate level, the number of literature will range from 15-50.

D

Learning Task 1: Exercise your mental muscles by choosing which of the described materials can be included in a review. Copy the items below on your notebook and check (✓) the box before the number if it merits to be included otherwise, cross (×) it out.

☐ 1. A book published in 2015 that is being used by public and private schools.

☐ 2. An international journal produced in 2018 by unknown organization.

☐ 3. An annual report for 2016 issued by the Department of Education.

Learning Task 2: Read the following excerpt from a review of related literature about *language and its sustainability in the teaching and learning process*. Briefly describe its (a) recency, (b) objectivity, (c) relevance and (d) conciseness. Do it on your notebook.

Review of Related Literature on Language and its Sustainability in the Teaching and Learning Process *(Excerpt)*
Eugene Ray F. Santos, MAT

With the major premise to bring higher literacy among younger children, learners are being taught using their mother-tongue in their primary education alongside with "Tagalog" which is the most common variety of the national language of the country. This is in consonance with the findings of various studies on bilingualism. McCabe et al., (2013) found a reasonable basis from the growing population of bilinguals in the world to affirm that learning using two languages does not lead to confusion or difficulty in an academic environment.

The mentioned studies zoom in the starting phase of language development wherein most factors that affect language learning are externally produced or the physical language environment. It can be pointed out that the situation where a learner is raised and the people who surround him have bearing in the failure or success of language acquisition, training, and learning. Considering these factors beyond the school, the actual teaching-learning environment, language teachers indeed have a very serious job to work out.

It is undeniable that there is voluminous input available about language teaching and learning. However, making language learning effective and efficient, considering learners' diversity, personality, behavior, intelligence and other equally important factors still remains quite challenging for language professionals.

The study of Scott et al., (2010) through neuroscience points out that every learner is a totally unique across contexts. In this light, it is affirmative that the inability or failure of the teaching and learning process especially in language acquisition is definitely dependent on the delivery of information to a student's learning style.

Hakura et. al (2014) presents six evidenced-based principles of language development from a review of various papers which highlight the struggle in second language learning From those principles, it could be inferred that 'matching' teaching with learning styles is essential. Dedicating more time in providing the motivation and skills necessary to attain learning objectives is also a priority including strategies that appeal to each learning style (visual, auditory, and kinesthetic) from a range of individualized and group tasks for language.

Meanwhile, from the investigation of Cabrera and Cotosi (2010) over the last 15 years, they noted that higher critical thinking starts with hands-on explorations and the sense of touch. It is found out that touch contributes not only to the understanding of abstract concepts but also to four critical thinking skills essential to learning: making distinctions, recognizing relationships, organizing systems, and taking multiple perspectives.

From an intelligent view, the reviewed papers offer non-conventional findings and bases about language learning and the way how the various factors effect change especially on how language can be best acquired and learned.

References:

Cabrera, D., & Cotosi, L. (2010, September/October). "The World at our Fingertips." Scientific American Mind, 21(4), 49-55.

Hakura, et. al, (2014) Six Principles of Lanaguage Development: Implications for Second Language Learners, Developmental Neuropsychology. Taylor & Francis Group, LLC.

McCabe, A. et al., (2013) Multilingual Children: Beyond Myths and Towards Best Practices. Social Policy Report, Society for Research in Child Development.

Scott, L. O., Lynn, S. J., Ruscio, J., & Beyerstein, B. L. (2010). 50 Great myths of popular psychology: Shattering widespread misconceptions about human behavior. Hoboken, NJ: Wiley-Blackwell.

Since you are now informed of the characteristics of a literature that is worthy of citation in the review and the commonly set number of materials to be read and reviewed for a research, we are now ready to study how to organize them in an actual review of related literature.

Organization of the Review of Related Literature

As in all forms of writing, it always pays to have a catchy opening or introduction, a wider discussion of the perspectives about the topic in the body paragraphs, and a sound closing paragraph or statement.

In writing a review of related literature, there are three major approaches in ordering or sequencing the topics and concepts that you are to include.

1. Chronological

This approach in organizing the review puts emphasis on the timeline of development or the year the materials were written. In this case, the intention is to show how changes about the topic occurred from its emergence. This also presents the evolving mindset and thinking of the authors. Mostly, this approach is used in qualitative researches.

Example:

Santos (2017) affirms that literature is an efficient springboard towards introducing and teaching language skills among Junior High School learners.

Tesoro (2018), meanwhile, found out that the a literature-based classroom should always consider the context of the learners, the literature, and the context of the teacher.

Further, Solano (2019) reported that there is a wider opportunity when the teaching of language skills is embedded in the teaching of literature.

2. By Topic/Concept

In this case, if many or several authors have a comparable opinion about the same topic or issue, it is appropriate to use this approach. This manner of organizing the review highlights the interrelationship of concepts which support the development of the current study. This approach is applicable in all methods of research.

Example:

It is found out that the use of music in teaching mathematics has a significant effect in the motivation of learners which contributed to their increased numeracy skills (Gonzales, 2016; Fernandez, 2013; Dionisio, 2012) .

PIVOT 4A CALABARZON

3. By Author/Writer

To build credibility with the claims that the research would like to stand on, presenting different authors even though they have similar ideas is highly advisable. Each point of view of every author is explained and expound to backup the main idea being presented in the review. Each author is cited in the footnote.

Example:

Clemente, Julaton, and Orleans (2016) stress that research suggests an action that denotes to look for something again. It is taken from the composition of the word "re" and "search."

Calderon and Gonzales (2014) reiterates that research is a purposive, systematic and scientific process of discovering truth. Thus, it entails systematic gathering of data to formulate findings and judgment.

Always remember that only major findings and conclusions, concepts, hypotheses, and formulated theories should be included in the review of related literature. Also, these are never directly lifted or copied, but summarized and synthesized.

Learning Task 3: Having learned of the basics of review of related literature and the ways and approaches to organize it, your task is to write a draft of review of related literature for your initial research topic. Follow the specific instructions below.

1. Gather essential concepts, information, and data about your initial research topic.
2. Secure 4-6 readings/materials from local and international level and their references .
3. You may maximize the available material at home and make use of the Internet in gathering related literature.
4. Organize your review of related literature using any of the approaches that were discussed in this lesson.
5. Consider the following guidelines as you write your draft.
   a. recency, objectivity, relevance and conciseness of the literature
   b. appropriateness of the organization of the review of related Literature
6. Write your draft on a clean sheet of paper.
7. Submit the draft through the modality best fitted to you.

You are very much prepared for this! Please be able to do the task within two (2) school days. Once the subject teacher has received and evaluated your draft, you will receive general and specific comments and, only if necessary, recommendations for enhancement will also be given to you.

Ethical Ways of Citing Literature

In writing the review of related literature, it is expected that a complete reference should be present in the list of references or bibliography section of your research paper.

Securing a scholarly reference list or bibliography takes away violations of the ethical standards in writing. The following are only a few of the related legal charges that may be called against unethical writing.

1. ***Plagiarism.*** Republic Act No. 8293 otherwise known as the Intellectual Property Code of the Philippines "protects and secures the exclusive rights of scientists, inventors, artists and other gifted citizens to their intellectual property and creations, particularly when beneficial to the people." In simple words, claiming and copying a portion of someone's written work. This act is never tolerated even in schools and universities and violators are subject to failure in the subject or the worse are expelled.

2. ***Copyright.*** This is also covered in Republic Act No. 8293 or the "Intellectual Property Code of the Philippines." It differs from plagiarism as it may pertain to the breach of contract between the authors and the publishers about the coverage or scope of circulation and distribution of the original work.

These charges are serious and it does not excuse anyone. In order to avoid this untoward scenario, writers and researchers like you should observe ethical standards through acknowledging the original authors of the work where the concepts, ideas or information is taken.

The making of list of references or bibliography follows specific standards and format. The commonly used formats are:

- *American Psychological Association* or *APA Style*;
- *Modern Language Association* or *MLA Style*; and
- *Chicago Manual of Style*.

American Psychological Association or APA Style

The APA Style is the most commonly used format in citing references. This provides the author's surname and year of publication in the citation with a complete details in the bibliography of the research. The page number is not included in the in-text citation.

In-Text Citation

1. A work by two authors

Education 4.0 refers to... (Santos & Portillo, 2017)

Santos and Portillo (2017) noted …

2. A work by three to five authors

Garcia, Santos, Hilario, Cruz and Aduan (2019) reiterated...

Complementary tool is...(Garcia, Santos, Hilario, Cruz & Aduan, 2019)

In other format, the citation may include only the surname of the first author with the word "et al." as an extension plus the publication year enclosed in parentheses. This additional part means 'and others.'

Garcia et al. (2019) emphasized that …

3. Six or more authors

Santos et al. (2017) pointed out …

4. Government and private agencies, organizations etc. as an author

According to Department of Education (2020) …

Based on the press release of the Department of Health (2020)...

Only abbreviation of the agencies will appear on the succeeding in-text citations in the paper

5. citing indirect sources in another source

Portillo positioned that … (as cited in Santos, 2019 p. 25)

6. electronic sources

Tamayo (2020) discussed that...

7. Citing websites (without an author, title and the date are cited; for sources with no date "n.d." is placed)

Smith, n.d. argued that...

a. In-text citation for website with no author

Rizal Province is now establishing coordinated operations to defeat rapid increase of COVID-19 cases (Rizal Provincial Government, 2020).

  b. Reference entry for website with no author

  Rizal Provincial Government. (2020). Retrieved from

  http://www.rizalprovince.ph/news/monitor-aug122020.html

 c. In-text citation for section of website without an author

  DepEd Cavite's Project Compassion: Suporta sa mga Katropa

  reached 180 beneficiaries since its launching in April (DEPED CALA

  BARZON, 2020).

 d. Reference entry for section of a website with no author

  DepEd CALABARZON. (2020). Retrieved from

  https://depedcalabarzon.ph/2020/06/cavites-project-compassion-

  raises-more-than-p650k-for-deped-cavite-frontliners-backliners/

Modern Language Association or *MLA Style*

  MLA Style is commonly used in liberal arts and humanities research work. This style involves putting relevant source information in parentheses after the quote or paraphrase. The source of information required in a citation in parentheses depends on the source medium and its source in the Bibliography.

 In-Text Citation

 Author-Page Style

  Santos stated that "photovoice" helps learners expound their ideas in writing essays (21).

  "Photovoice" helps learners expound their ideas in writing essays (Santos 21).

  Santos found out that "photovoice" helps learners expound their ideas in writing essays (21).

Chicago Manual of Style

  This style contains two basic referencing system, such as notes and bibliography and author-date.

 Notes and Bibliography System

 One author

  end note: Eugene Ray F. Santos, Overcoming Writing Apprehension through Photovoice (Rizal: Morong National High School, 2017), 21.

  in-text citation: Santos, Overcoming Writing Apprehension, 21.

  bibliographic entry: Santos, Eugene Ray F. Overcoming Writing Apprehension through Photovoice. Rizal: Morong National High School, 2017.

Two or more authors

      end note: Eugene Ray F. Santos and Ellen C. Dollente.

            Implications of the Implementation of MTB-MLE

            in Southeast Asia (Manila:PNU, 2019), 25.

      in-text citation: Santos and Dollente, Implications, 25.

      bibliographic entry: Santos, Eugene Ray F. and Ellen C. Dollente.

            Implications of the Implementation of MTB-MLE

            in Southeast Asia. Manila: PNU, 2019.

Four or more authors

      First end note: Freddie R. Garcia et al., Complementary Classroom

            Observation Tool

      Succeeding note: Garcia et al., Complementary Classroom...

Author-Date System

One author

      in-text citation: (Santos 2017, 21)

      bibliographic entry: Santos, Eugene Ray F. 2017. Overcoming

            Writing Apprehension through Photovoice.

            Rizal: Morong National High School.

Two or more authors

      in-text citation: (Santos and Dollente 2019, 25)

      bibliographic entry: Santos, Eugene Ray F. and Ellen C. Dollente.

            2019. Implications of the Implementation of

            MTB-MLE in Southeast Asia. Manila: PNU.

Four or more authors (List all authors in the reference list)

      in-text citation: (Garcia et al.,2019)

Websites (website content can be restricted in in-text citation)

      In April, DepEd Cavite's Project Compassion: Suporta sa mga Katro
pa reached 180 beneficiaries...

If a more format citation is necessary, the format below may be used:

      DepEd CALABARZON. 2020. "Cavite's Project Compassion: Suporta
sa mga Katropa." Last modified on June 22. https://
depedcalabarzon.ph/2020/06/cavites-project-compassion-raises-
more-than-p650k-for-deped-cavite-frontliners-backliners/

      (DepEd CALABARZON 2020)

*If date cannot be found on the page, use the access date as the basis of date
of modification*

E

Learning Task 4 With your rich background on the three major styles of citation and referencing, show the similarities and differences of *APA Style, MLA Style and Chicago Manual of Style* through a Venn Diagram. Do this on your notebook.

MLA Style   APA Style   Chicago Manual of Style
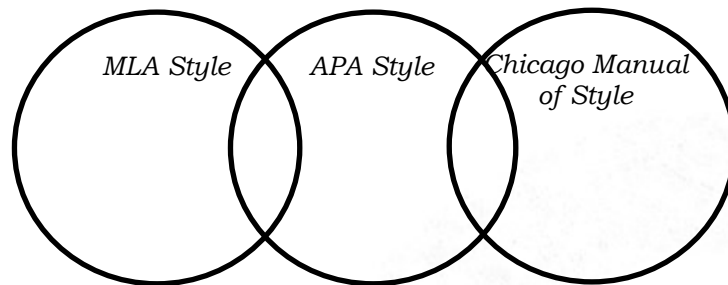
A

Learning Task 5: Study the details of the references below. On a one whole sheet of paper, create the in-text and bibliographic entry for it using the *APA Style, MLA Style and Chicago Manual of Style.*

1. Authors: No Author
   Title of the Book: Research in TVET Made Easy
   Publisher: Colombo Plan Staff College
   Date Published: 2009 Place: DepEd Complex, Pasig City   Page: 52

Style	In-text citation	Bibliographic entry
APA Style		

2. Authors: H.E. Caintic and J.M. Cruz
   Title of the Book: Scientific Research Manual
   Publisher: C&E Publishing, Inc.
   Date Published: 2008 Place: Quezon City   Page: 25

Style	In-text citation	Bibliographic entry
MLA Style		

3. Authors: M.Q. Patton and M. Cochran
   Title of the Book: A Guide to Using Qualitative Research Methodology
   Publisher: Medecins Sans Frontieres
   Date Published: 2002
   Access Date: December 15, 2015   Page : 21-22
   Access Link/URL: www.alnap.org/pool/files/qualitative-research-methodology.pdf

Style	In-text citation	Bibliographic entry
Chicago Manual of Style		

Describing Research Design, Methodology and Preparing the Instrument

Lesson

I

Interesting! To ensure that the research being undertaken will be successful, there are various elements that need to be designed and planned systematically to attain the objectives of the study.

In this lesson, you will gain better understanding and skills in describing and carrying out a research design applicable and appropriate for your research. In addition, you will gain technical orientation in preparing and developing data-gathering instrument, choosing sample and respondents, collecting and analyzing data procedures.

At the end of this lesson, you are expected to have set the structuring techniques and strategies to solve the problems and to answer your research questions.

Gathering data and information is a serious procedure that requires organized and systematic structuring and strategies. Just like how doctors prepare for a major operation, including exact information about the disease, the processes that needs to be performed, and the treatment that should be given to patients, a researcher should also plan things out before the actual conduct of the research. He should be aware of the specific details about the entire execution of the research, such as the participants, the instruments, and how the data will be gathered and treated.

Research Methods

In choosing the research method that best fits your research, you will have to know the nature of your research question or problem. You would need to know as well the collection and analysis tool that the data would need.

As you have learned from your Practical Research 1 and 2, quantitative research deals with numbers this type of data would require statistical treatment.

Meanwhile, qualitative research entails data in the form of words and extracting meanings which will demand a framework of data analysis. If your research problem would deal with both kinds of data, then your research may be needing mixed methods and processes of research.

The table shows the various elements that quantitative and qualitative research. This will help you decide which method are you into based on your initial research topic.

Elements	Quantitative Research	Qualitative Research
FOCUS	testing theories and hypotheses	exploring ideas and forming theories
TREATMENT	statistical analysis	summarization, categorization, and interpretation
DATA FORM	numbers, graphs and tables	words and paragraphs
INSTRUMENT	fixed-objective questions	open-ended questions
PARTICIPANTS	large samples	small sample
DATA COLLECTION	survey, experiments, observations	interviews, focus groups, ethnography, literature review

D

Learning Task 1: Study your initial research problem. Copy the table on your notebook and supply the necessary information in each row. Later on, decide which method of research are you going to utilize in your study. Then, answer the questions that follow.

Elements	
FOCUS	
TREATMENT	
DATA FORM	
INSTRUMENT	
PARTICIPANTS	
DATA COLLECTION	

Guide Questions:

1. Explain the research method that you chose for your research?
2. Why did you choose such method for your research? Explain its appropriateness for the course of your study.
3. What specific steps do you anticipate/expect in this research method?
4. What possible problems/challenges do you look forward to in the conduct of the method?
5. How will you prevent such problems/challenges to happen? Or if they happen, what solutions do you intend to do?

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Research Design

Research design is the process of structuring techniques and strategies that help researchers solve their problems or answer their questions (Clemente, Julaton & Orleans, 2016). Here are some research designs from the University of Southern California (2020) to ensure that the elements in the research work are coherent and logical in order to achieve the answers to the research problems.

1. _Action Research Design_ - is a collaborative and adaptive research design that focuses on socially and solution-driven outcomes. It has the potential to increase learning from experience. Action research mostly is applicable in the teaching-learning process.

2. Case Study Design - This design is widely used by social scientists since it aims to examine contemporary situations that are happening in real life. This design can provide the bases for the application of concepts and theories as well as detailed descriptions of unusual cases.

3. Causal Design - This design is commonly used to measure the impact of a particular change on existing situation or norm. Typically, causal explanations are sought to reflect on hypotheses testing. Causal effect happens when difference in a phenomenon leads to significant results.

4. Cross-Sectional Design - Cross-sectional researches are capable of using data from a large number of subjects as it primarily use survey techniques to gather data. This design can only measure differences between or from among a diverse set of participants, subjects, or phenomena.

5. Descriptive Design - This designs answers the questions who, what, when, where, and how of a research problem. However, it is could not provide reasons or exact answers to the question "why". It only intends to describe "what exists" in a situation and its related variables.

6. Experimental Design - This design involves an experimental group and a control group wherein the independent variable is applied to the experimental group while maintaining the control group. Later, both groups are measured on the same target dependent variable. It may require the use of more groups and measurements over periods of time to validate the results. This is typically done in the field of medicine and science.

7. Exploratory Design - Primarily, exploratory design is fitted to a research problem that is not yet saturated or with only a few or totally no investigations or investigations have been conducted for. This is often administered to understand the processes in order to proceed in deeper studying of an issue. This may also deal with discovering the best methodology to use in gathering information.

8. Historical Design - Collecting, verifying, and synthesizing evidences from the significant past are the aim of historical research design. This is bound towards establish factual bases to defend, challenge or nullify a certain existing knowledge. It mainly involves data from secondary sources and also primary documents and artifacts, such as but not limited to records, materials, archives and visual artifacts like maps, images, and footages or recordings.

9. Mixed-Method Design - This design is a combination of quantitative and qualitative methods. Its is advantageous in the sense that the strengths of one method can be used to fulfill the weaknesses of another. Mixed-method design can provide sufficient evidences to support a conclusion or set of recommendations since it deals with statistical data and insights from patterns and relationships of the involved variables.
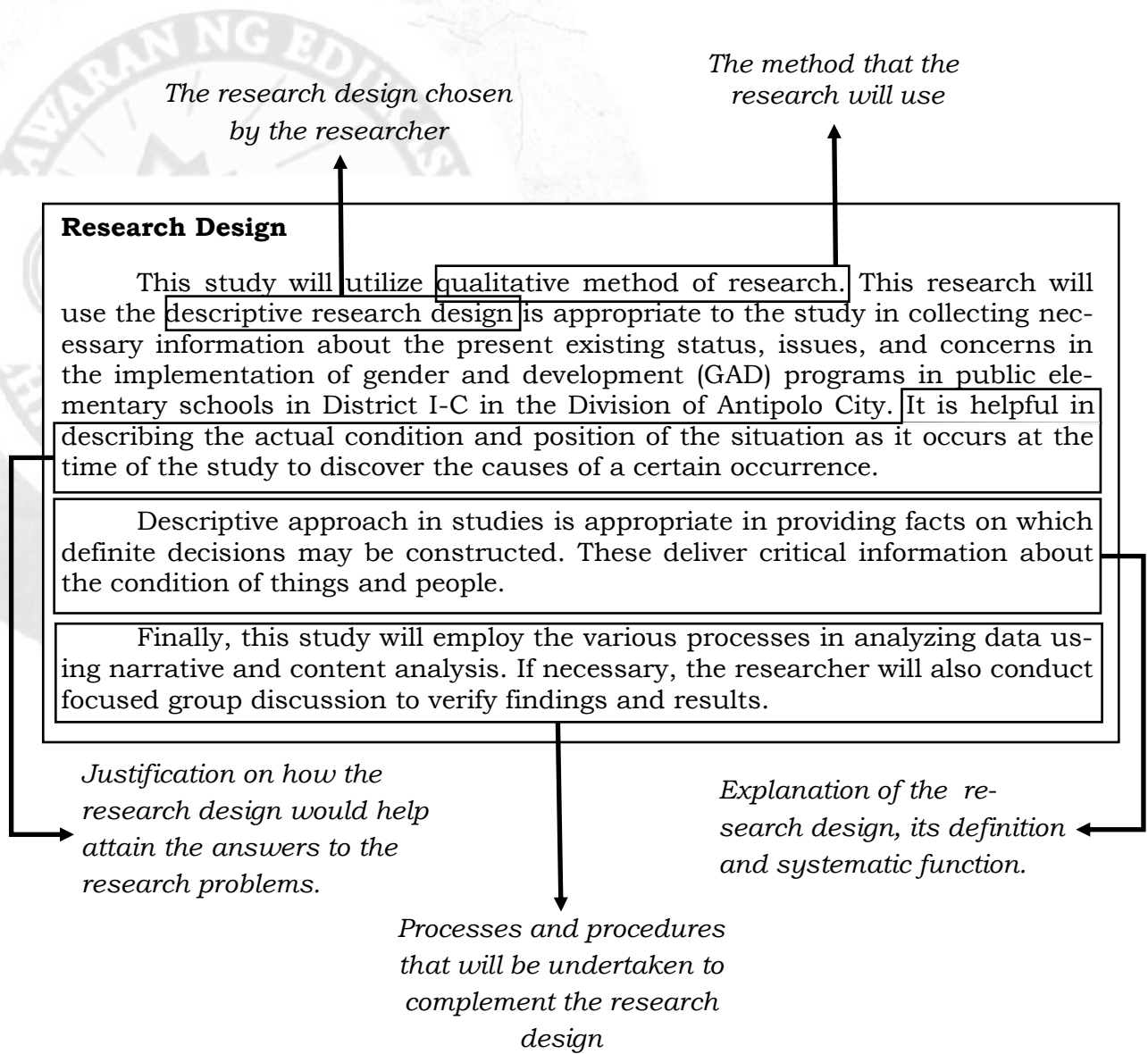
These are only a few of the existing research designs which you may opt to utilize in the conduct of your research. The only thing that should be ensured is the appropriateness of the design to the research problems, so that the results or outcome will be definitely valid and reliable.

Learning Task 2: Read carefully, understand and answer the following questions. Write your answers on your notebook.

1. Which design are you interested to deal with? Why?
   _____
2. Which of these designs is the most appropriate for your initial research interest? Explain your answer.
   _____
3. How do you plan to execute the research design that you chose?
   _____
4. Provide a detailed procedure or process on how you will execute the design.
   _____
5. What problems do you expect as you carry out the research design in terms of:
   a. resources

   _____
   b. time

   _____
6. How will you solve the problems that you anticipate?
   _____

In the research manuscript, the research design is expressed in coherent and logical section. It is also explained supported with details referring to it appropriateness with the research topic and problems and the processes in order to validate, so that the research will not be interrupted for any reason that may cause conflicts in the attainment of the objectives of the research.

Here is an excerpt from a research design in the research proposal of Ms. Julieta G. Habagat entitled "Status, Issues and Concerns in the Implementation of Gender and Development (GAD) Programs in Public Elementary Schools in District I-C, Division of Antipolo City." Study how the details and information are presented.

The research design chosen by the researcher

The method that the research will use

Research Design

This study will utilize qualitative method of research. This research will use the descriptive research design is appropriate to the study in collecting necessary information about the present existing status, issues, and concerns in the implementation of gender and development (GAD) programs in public elementary schools in District I-C in the Division of Antipolo City. It is helpful in describing the actual condition and position of the situation as it occurs at the time of the study to discover the causes of a certain occurrence.

Descriptive approach in studies is appropriate in providing facts on which definite decisions may be constructed. These deliver critical information about the condition of things and people.

Finally, this study will employ the various processes in analyzing data using narrative and content analysis. If necessary, the researcher will also conduct focused group discussion to verify findings and results.

Justification on how the research design would help attain the answers to the research problems.

Explanation of the research design, its definition and systematic function.

Processes and procedures that will be undertaken to complement the research design

Learning Task 3: On your notebook, construct your research design section for your research. Ensure that the information is complete and clearly presented. In case you will find it challenging, you may ask for assistance from your siblings and parents. You may also contact your colleagues to brainstorm. Do not hesitate to get in touch with your subject teacher for further assistance that you would need.

Research Design
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With the research method and design that you have chosen, it is best to know the sources of the data that you would need to answer the research questions. It could be a set of available corpus or inputs from individuals. These matters may have been discussed during your *Statistics and Probability* class, especially probability and non-probability sampling. Let us do a simple recall.

Population, Sample and Sampling Technique

To make it clearer, let us define the terms *population, sample* and *sampling technique.*

Population is the entire group of people, organisms or things that share similar features and characteristics which are of high relevance to the research being conducted. In an action research being conducted in a particular school, all students can be considered the population.

Sample refers to members of a certain population. A sample is a representation of the entire population carrying the same characteristics. Taking the enrolled learners in a particular school as population, two sections or classes in that school may serve as *sample.* The process of selecting the samples is called *sampling.*

Sampling Technique pertains to the specific manner or ways of selecting the sample which are discussed in your previous classes in Research and Mathematics. In quantitative research, sampling may require statistical operations, to ensure that the number of participants is sufficient to collect the data needed; while in qualitative research, selecting the specific number of samples has no definite rules. However, the consideration should be ensured in terms of saturation of the data about the topic and the variation that is needed within the target population.

Hence, these recall would give light as you select the population and sample that will be involved in your research work. As you present your research proposal at the end of the quarter, one member of the panel of experts will be a teacher of mathematic, so you will get advice in terms of the accuracy and appropriateness of your selected population and sample as well as the technique

Learning Task 4: On your notebook, decide about the population, sample and the sampling technique that you are going to use in your research work.

    A. Population   :   _____

    B. Sample   :   _____

    C. Sampling Technique: _____

The final task that you will have to do is to plan the data collection and develop the research instrument that you will use. Here are important information about preparing and administering the research instrument.

Classification of Data According to Source

Since research is mostly concerned about data management, it is worthy to know the classification of data. Data are classified according to source.

Primary Data. These data come from primary sources (see page. 19). The data may come directly from the natural world, individuals, physical materials, groups or organizations, legitimate practices and belief system, laws and policies and personal records.

Secondary Data. Information from books, newspapers, publications, transcripts are forms of secondary data.

The Research Instruments/Tools

There are several ways of collecting data. The choice of research instruments is one of the major decisions that the researcher will have to do. This is crucial since the instrument will be the channel through which the researcher will be able to gather the data that are needed in forming answers to the research problems.

Mechanical Devices. These include almost all tools available in different laboratories for various disciplines and areas. Cameras, recorders, tapes and films are only a few devices that may be used in collecting data for a historical or social science research. Meanwhile, microscopes, telescopes, flasks, tubes, thermometers and other apparatuses are some instruments for a scientific and experimental research. Each discipline has its own designed devices for its operation research work.

Clerical Tools. In the study if perceptions, emotions, feelings, attitude and judgments, clerical tools like questionnaire, interview, testing and other materials are applicable. Most clerical tools are researcher-made which are checked and validated by experts and acceptable validation procedures. The following are the common methods involved in clerical tools:

1. The questionnaire method
2. The interview method
3. The testing method
4. The experimental method
5. The library method

Characteristics of Good Data Collection Instrument

The heart of the research is its data. That is why the instrument that will be used to gather the needed data should bear the following characteristics (Clemente, Julaton and Orleans, 2016).
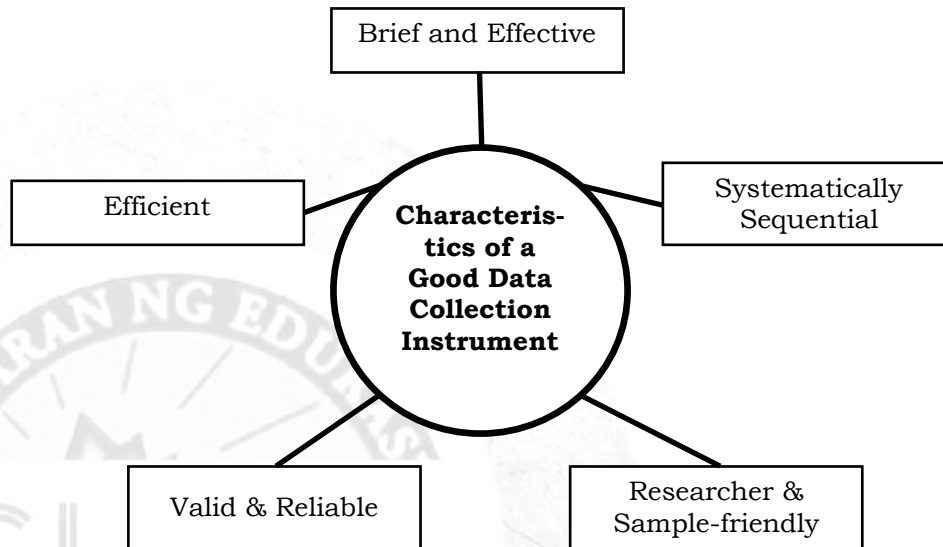
1. ***Brief and Effective***. The data collection instrument should not be too long to be completed or accomplished by both the researcher and the respondents. However, it should contain rich prompts and fields to gather rich information as well. Time is always important, so making it short without compromising the target data is ideal.

2. *Efficient*. The instrument should be able to collect information afar from what is available and accessible to the researcher.

3. ***Systematically sequential***. The content of the instrument should be arranged systematically from an increasing difficulty or complexity of information being asked. Easy and less sensitive questions should be placed first before the complex and confidential ones.

4. ***Valid and Reliable***. In order to attain these characteristics, the developed instrument should undergo tests of validity and reliability through processes like pilot testing and the like.

5. ***Researcher and Sample-friendly***. The data shat will be collected from the material should be easy to be provided by the sample and easy to handle in the part of the researcher. The tabulation, analysis and interpretation of the data should not complicate the tasks of the researcher.

Common Data Collection Instruments

Given the data collection methods in the previous topic, here are the common data collection instruments (Clemente, Julaton and Orleans, 2016; Calderon and Gonzales, 2014).

1. **Documentary Review**. This is the process of obtaining information from relevant documents. It is practical and efficient since the data can be manageable enough which can come from public records, personal documents and physical evidences.

2. **Interview**. It its basic definition, interview is the process of asking questions to key informants or respondents about the topics of the research. The researcher should have enough training and background in administering this kind of data-gathering. This can be done through face-to-face, over the telephone or computer-assisted.

   A. *Structured Interview.* The researcher would have to construct and organize questions which the respondents will answer. The researcher does not ask other questions aside from what has been prepared prior to the interview.

   B. *Unstructured Interview.* In this type of interview, the researcher holds only an outline of topics. The questions will be spontaneously asked to form a conversation with the interviewee. Probing skills in questioning is highly necessary.

   C. *Semi-Structured Interview.* This is a blend of the two previous types of interview. It is where the researcher prepares questions and still ask follow up questions to the interviewee for a sort of elaboration in order to form a in-depth probing.

3. **Observation.** Tracking physical, behavioral and other aspects from the target sample over a period of time is the major concern of the researcher in this method.

   A. *Naturalistic Observation.* The researcher observes the subjects in their actual setting or natural environment without the intrusion or involvement of the researcher.

   B. *Participative Observation.* This interview requires the researcher to be involved in the activities of the subjects. In this way, the researcher would directly know and feel what the subject experiences.

   C. *Non-naturalistic Observation.* In this interview, the subjects are taken away from their usual situation and will experience the ideal conditions set by the researcher.

4. **Questionnaire-Checklist.** This is one of the commonly used data collection instruments among other. Questionnaire-checklists are easy to administer and efficient in gathering large volume of data. Basically, the respondents would provide answers to the prepared set of questions like the following:

A. Tag Questions. These questions are answerable by yes or no.

Example:

Do you have food allergies? _____Yes   _____No

B. Multiple Choice. This is the usual way of getting answer/response from the respondents basically by giving a question and options to choose from.

Example:

How do you reach your school?

a. walking

b. public transportation (commuting)

c. private vehicle

C. Open-ended Questions. The respondents would have top continue an incomplete statement.

Example:

I prefer to study online because _____.

D. Coding/Ranking. In this type, the respondents are asked to rank or give numerical rating for the information required of them. This may come in a form of a checklist with a scale.

Example:

Indicator	4 Always	3 Often	2 Seldom	1 Never
1. I use my cellular/mobile phone to communicate with other people.				

E. Short-responses Questions. These are subjective questions that require short answers. This gives the respondents the freedom to express their ideas and opinions.

Example:

What is your opinion about Education 4.0?

F. Combination. This refers to the combination of the different form of questions in a single questionnaire.

5. **Focus Group Discussion (FGD).** It is composed of totally diverse set of individuals to express their personal views about the topic. They can agree or disagree with each other about the issues. FGD is a way to understand the perspectives which cannot be explained by statistical data. The researcher should be skilled in moderating and documenting the conduct to gather the needed data.

E

Learning Task 5.A: Study the following items very carefully. Classify each device whether it is a mechanical device or clerical tool. On your notebook, write **MD** for mechanical device and **CT** for clerical tool.

_____ 1. CCTV camera

_____ 2. interview

_____ 3. checklist

_____ 4. test tube

_____ 5. journal

B. Directions: Construct a 3-5 sentence generalization about the characteristics of a good data collection instrument. Write it on your notebook.

C. Directions: Analyze the given research scenario in every item and identify the appropriate data collection instrument for it. Do this on your notebook.

_____1. Jesse and Jerwin are conducting their research about the behavior of their pet dogs in the different areas in their house.

_____2. Roku and Aki are interested in knowing the perceptions of students in their strand about the changes that are happening in the country in terms of environment.

_____3. A group of researchers would like to describe the feelings of adolescents about being at home for several months.

_____4. Group B is studying the facts and papers regarding the decision of the Students' Council about the creation of online student portal.

_____5. Emmarie and Franc are siblings and they would like to balance the distribution of the household chores among the 6 siblings.
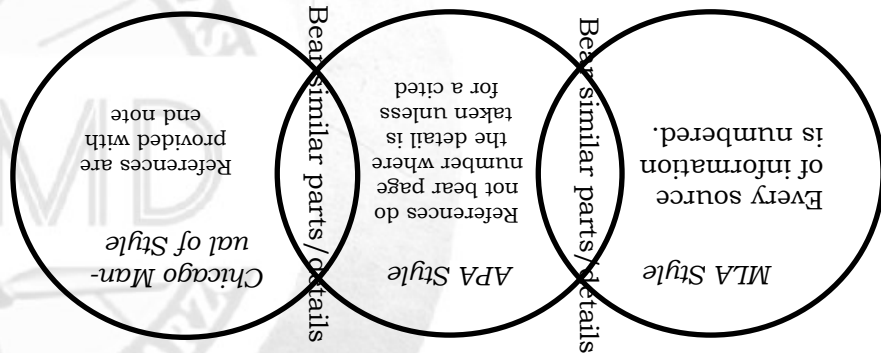
A

Learning Task 6: Using the approaches, guidelines and types of data collection instruments, create a draft of an appropriate data gathering tool for your initial research topic. You may ask assistance from your family members. Also, contact your subject teacher if you need clarifications and other assistance. Do this on a clean sheet of paper.

Answer

Learning Task 5

Style	In-text citation	Bibliographic entry
APA Style	According to Department of Education (2009)…	Department of Education. (2009). Research in TVET Made Easy. Colombo Plan Staff College:Pasig City.
MLA Style	Caintic and Cruz stated that…(1)	(1) Caintic, H.E and J.M. Cruz. (2008). Scientific Research Manual. C&E Publishing, Inc: Quezon City.
Chicago Manual of Style	Notes & bibliography System "Patton and Cochran,…" 2002, 21-22. Author-date System … (Patton and Cochran, 2002, 21-22)	Patton, M.Q. and M. Cochran. A Guide to Using Qualitative Research Methodology. Medecins Sans Frontieres, 2002. Retrieved from www.alnap.org/pool/files/qualitative-research-methodology.pdf.

MLA Style — Every source of information is numbered.

APA Style — References do not bear page number where the detail is taken unless for a cited

Chicago Manual of Style — References are provided with end note

Bear similar parts/details

Learning Task 4 (Answers may vary)
Learning Task 3 (Answers may vary)
Learning Task 2 (Answers may vary)

Learning Task 5
1. ✓   2. ✗   3. ✓

Weeks 3-5

Learning Task 4
1. D   2. C   3. B   4. A   5. A   6. C   7. B   8. D   9. A   10. B

Learning Task 3
1. Attainable   3. Realistic   5. Specific
2. Measurable   4. Time-Bound

Learning Task 2 (Answers may vary)
Learning Task 1 (Answers may vary)
Week 2

Learning Task 3 (Answers may vary)
Learning Task 2 (Answers may vary)
Learning Task 1 (Answers may vary)
**Week 1**

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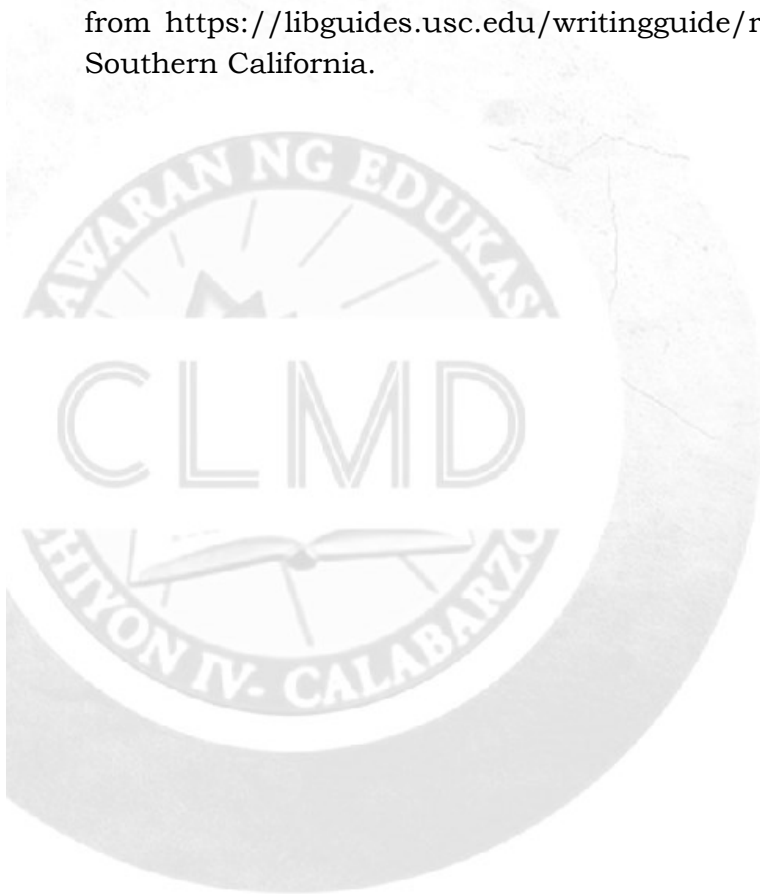
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