Module: Establish Your Research Objectives: Summary

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1	What this module covers	This module deals with the first three steps of the research process • Define the project topic and the problem statement • Identify the research objectives • Choose a research method • Collect the data • Analyse and Interpret the data
2	Step 1: Define the Project Topic and the Problem Statement	The first step of the research process is to define the project topic and the problem statement. The difference between a Project Topic and a Problem Statement is: • A **Project Topic** is what you are writing about • A **Problem Statement** is what you are trying to **find out** (your question) OR what you want to **prove** about a topic (your assumption or hypothesis) Example: Project Topic: Impact of the mass media Problem statement: Teenagers are influenced by what they see on television and tend to follow trends set by their idols • The project topic tends to be broad and general. To conduct an effective research, you should generate a more specific problem statement. • The problem statement is more specific. It provides details about who, what, where, when, why and how.
		The Research Topic is usually assigned by your teacher. If it is not, you will need to generate it yourself. The problem statement is more specific than the project topic and we can generate the problem statement by asking 'Who', 'What', 'Where', 'When', 'Why' and 'How' questions.
		Here are some guidelines on generating your Project Topic (if it is not given) and your Problem Statement: • Be creative; make your project topic and problem statement interesting and engaging • Keep it short and simple (KISS) • Know what your teacher expects

3	Step 2: Identify the Research Objectives	The problem statement can be written as an **assumption** or a **hypothesis**: • SARS has a relatively low mortality rate • A sudden onset of high fever, cough and breathing difficulties are some of the symptoms of SARS • Observing personal hygiene and being socially responsible can help to prevent the spread of SARS
		The problem statement can also be written as **a question**: • What are governments in developing countries doing to stop the spread of SARS among poultry? • What is the economic impact of SARS on the tourism industry in Asia? • How can we educate our local community about SARS?
		In order to solve your problem statement, you now need to ask a few questions to identify your research objectives: • What is the main aim of your research? • Who are we going to research? • What information do you need to answer your problem statement? • Why do you want this information? • What will you do with the information that you find? Examples: • Are you trying to find out how SARS is transmitted amongst humans? • Are you looking at children or adults in a particular geographic location? • Will you publish your research findings or share it with others?
4	Step 3: Choose a Research Method	Before proceeding with your data collection, you will have to select your research method. This involves two things: 1. Choosing the research approach (qualitative or quantitative) 2. Choosing the method to collect the data (e.g. document search, surveys, focus groups etc). This will depend on whether you are collecting primary or secondary data. Selecting a quantitative/ qualitative approach will depend on your problem statement.

5	Qualitative and Quantitative Approach	**Quantitative Approach** • Fact-based research • Systematic, scientific approach that involves 'counting', 'measurement' and 'proof' • Involves the collection and analyses of numerical data • Data can be easily presented in charts, tables, graphs and other forms of visual diagrams Example: A researcher wants to know the most popular mobile phone brand amongst Secondary 2 students in the east of Singapore.
		Qualitative Approach • Opinion-based research • Observing, collecting and analysing the behaviour of others and what they say Example: A researcher may want to know how senior citizens feel about the recent increase in bus and train fares.
6	Primary and Secondary Data	Choosing the method to collect the data will also depend on the type of data you are collecting: 1. Primary data 2. Secondary data **Primary Data** • Primary data is first hand information that is collected by the researcher himself/ herself through observation, interviews, surveys and experiments. • The choice is determined by the nature of the problem and by the availability of time and money. • Primary data collection is necessary when a researcher cannot find the data needed from existing published material. Example: Market researchers are interested in primary data about demographic/ socioeconomic characteristics, attitudes/ opinions/ interests, awareness/ knowledge, intentions, motivation, and behavior. **Secondary Data** • Data that has been **previously collected and published by others**. **This** has been organised and presented in the form of books, letters, diaries, magazines, maps, statistics, newspapers, photographs and even on websites. • Secondary data collection involves performing document research (i.e. reading through previous studies and findings done on the topic) • Usually collected for a different purpose from what the researcher is now trying to address. Example: A researcher wanting to know more about the life of Anne Frank will refer to her diary, photographs, books and other published information sources that is publicly accessible.