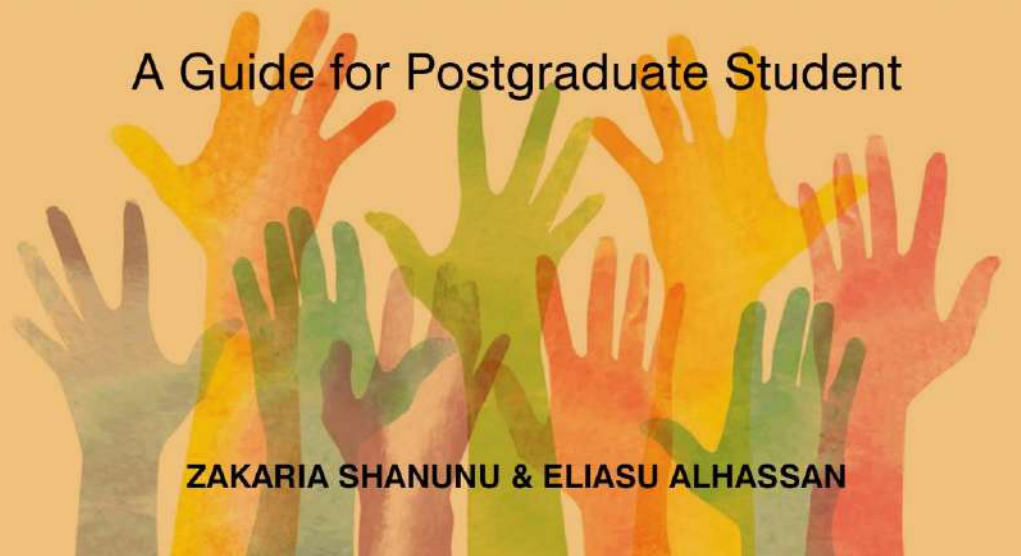
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SOCIOLOGICAL APPROACHES TO CULTURE AND ENDOGENOUS RESEARCH

A Guide for Postgraduate Student



ZAKARIA SHANUNU & ELIASU ALHASSAN

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Sociological Approaches to Culture and Endogenous Research

A Guide for Postgraduate Student

ZAKARIA SHANUNU & ELIASU ALHASSAN

2026

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PREFACE

Plans for academics and researchers interested in Sociological approaches to Culture and Endogenous research are advanced in this book. Conducting research is a typical aspect of any job of a student. In terms of research and publishing, these individuals are frequently at different stages of their professional careers. In fact, such individuals must publish or perish to thrive in such a setting and have a rewarding professional experience. Beyond institutional requirements, some individuals publish frequently. Some fail because they are unable to publish enough, but others fail despite publishing because they publish items that are considered subpar.

It might be difficult and frustrating at times to become a competent researcher. It typically starts seriously in graduate school, when students must conduct research and write a thesis or dissertation report to graduate. While some students struggle to finish in a record time, others cannot complete their research in a record time. There are many people in this category who are just unable to complete thier thesis or dissertation report to graduate.

We were inspired to develop this book because we believed that faculty members lacked easy access to publications that offered basic knowledge about the research process in a

thorough yet approachable way that students and novice researchers could use with minimal assistance. This, in our opinion, is one of the reasons why some students struggle to finish their research on time.

In addition to our research experience, years of teaching undergraduate and graduate students and supervising, evaluating, and screening student research served as the primary inspiration for this book. We have tried to avoid writing a textbook on conventional research methodology. Instead, we have attempted to guide readers through the process of undertaking Sociological approaches to Endogenous and Cultural research in a way that is both educational and instructive. This book is special for the guiding sections. Although this book contains a lot of materials, it might not be sufficient to meet every reader's information demands. To clarify it differently, this book might help students and novice researchers overcome several types of ignorance regarding the research process and more specifically, regarding Sociological approaches to Culture and Endogenous research. It will also make some people aware of the need to learn more about specific problems during the research process.

How to use the Book

To gain a sense of what the book has to offer, readers should first read it as a storybook. It will raise awareness to the point

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that the student or novice researcher is more careful and inquisitive, but also more thoughtful and self-assured while making research-related decisions. Following the book's overall overview, the reader can now devote more time to reading individual chapters to make conclusions regarding the subjects they address. To locate material on particular subjects, readers can also consult the index section. For further in-depth information on some of the subjects covered in this book, students might need to refer to additional sources. The purpose of this book, in our opinion, is to educate individuals by making them aware of what they do not already know.

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CHAPTER ONE
UNDERSTANDING CULTURE AND ENDOGENOUS RESEARCH

INTRODUCTION

In everyday speech, research is the pursuit of knowledge. The phrase should be used with a technical meaning because research is an academic activity. Research entails defining and redefining problems, developing hypotheses or proposed solutions, gathering, organizing, and analyzing data, drawing conclusions and drawing deductions, and then carefully testing those conclusions to see if they align with the hypotheses. Therefore, research adds something new to the body of knowledge to advance it. Knowledge is one of the most important components for human survival.

Culture and Endogenous research lack straight-forward methodological design or system arrangement, but there are some key techniques or approaches that researchers and postgraduate students can choose from and use exactly as they embark on their research process. In addition, some of the approaches are from students' research that already existed before this book. The fact that sociocultural, and ecological circumstances are varied, local researchers' abilities and perspectives will differ greatly. Sociological approaches to Culture and Endogenous research is a new approach to research interventions discourse. This suggests that there will never be a

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simple solution to the problem of which techniques to apply in a given circumstance.

Understanding how people build and value things depending on their cultural origins is the goal of cultural and endogenous research, which is the study of indigenous perspectives on learning, achievement, and human behaviour within particular cultural contexts. In several fields, such as psychology, sociology, and economics, endogenous research methods are crucial for examining the effects of one variable on another. Dependent, independent variables and internal variables are also found in endogenous research. These are variables that are established within the system or model under study and that are impacted by other cultural endogenous model variables.

There are several cultural and endogenous examples of research methodologies in this book that researchers can use as potential approaches and techniques to modify and adapt for their own research. Moreover, it poses several problems that must be addressed throughout cultural and endogenous research. Some frameworks options and reflections are provided. In order to develop unique research procedures for every research topic, it is anticipated and hoped that researchers and students will critically examine all of these and use them as a source of inspiration and the catalyst for their own innovation.

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Understanding Sociological approaches to Culture and Endogenous wisdom is best achieved by being receptive to alternative realities in research

Native worldviews are ingrained in Native perceptions. The lens through which Place-based epistemologies, approaches, and pedagogies might be expressed is an Endogenous and cultural worldview. There is a common belief among the Aboriginal People that humans and the natural world are closely intertwined, despite their varied cultural backgrounds. They contend that in order for individuals to comprehend and appreciate cultural diversity, they must first recognize the distinctiveness of each knowledge system. One method of shedding light and disproving the positivist Western scientific paradigm as the exclusive framework for pursuing truth is through the comparison of knowledge systems. More crucially, the analogies provide a point of clarity that Western positivist scientists would find useful. Like the majority dichotomous comparisons, they may be contested as true and helpful to some extent.

According to Salkind (2017) the word "research" is intrinsically related to European colonialism from the perspective of the colonized. For many of the colonized peoples, the connection between scientific inquiry and the worst excesses of imperialism is still a vivid memory. She advocates for the decolonization of research methodologies as an endogenous researcher. She introduces the idea of endogenous research, which has wide

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goals and objectives. It might have various uses. She refers to decolonization, self-determination, mobilization, healing, recovery, and growth. Different actors and different strategies may be employed for each goal. Although many of these processes are group learning exercises, some are independent.

Gregory (2010) offers a creative perspective on cultural and endogenous scientific knowledge and makes significant contributions to decolonizing the Eurocentric view of science. His book, Native Science, 2. Gregory (2010) indicated that endogenous and cultural knowledge are interdependent laws found in nature. He outlines the age-old tradition of understanding, feeling, and experiencing nature. In addition to studying art, myth, ceremonial, and symbolism, he also studies the cultural and endogenous perspective on reality and the tangible application of cultural and endogenous science. He considers the various levels of meaning present in Native cosmology, astronomy, psychology, agriculture, and healing practices. According to him, natural thinking views things in terms of relationships rather than isolating them to comprehend and deal with them. Cultural and endogenous people have been able to live in spiritual and physical peace with the earth for thousands of years because they have a fundamental grasp of the link that unites all forces and all forms of life. These writers speak for an increasing number of Endogenous and Culture scholars and critical thinkers who follow a path that resembles endogenous growth and with which there may be opportunities

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for collaboration. Denzin et al. (2008) draw parallels between the new critical theorists' viewpoints and the burgeoning cultural and endogenous approaches.

Examining culture and conducting endogenous research are essential to obtain precise, relevant and sustainable results in multiple domains, especially in social science and development. The value of studying culture and endogenous research lies in how internal cultural elements and self-generated development methods impact economic and social consequences. Although endogenous research focuses on using local knowledge and internal mechanisms to find answers within a community or organization, cultural research aids in identifying how certain values and norms might support or impede development. This strategy is essential because it allows more effective and pertinent development that is not forced from the outside.

Understanding culture and endogenous research is crucial because it provides the underlying backdrop in which human behaviour, social interactions, and worldviews are developed. Culture and endogenous research work as a lens through which people understand information and the world around them. Because the same conduct could have different meanings in different cultures, ignoring this context can result in misinterpretations and incorrect conclusions in research findings. Cultural and endogenous research awareness improves communication skills by underlining the importance of cultural

nuances, non-verbal clues, and communication styles. This is crucial to create trust and effective collaboration with diverse communities. Studying diverse cultures allows researchers to examine their own preconceptions and biases, encouraging a more open-minded and empathic approach to research and the real world.

Recognizing the cultural and endogenous context of a study population helps to determine the generalizability of the findings. Many social and psychological theories may not apply to all situations because they are frequently based on "WEIRD" (Western, Educated, Industrialized, Rich, Democratic) samples.

Individual identity and community well-being are closely linked to culture. Research that honours and incorporates cultural and endogenous values can boost community vitality, promote social cohesion, and improve health outcomes.

Table 1: A comparison of Endogenous, Cultural, and mainstream research ideas (Michel et al 2008)

S/N	**Concepts in Culture and Endogenous Science**	**Concepts in mainstream Science**
1	Physical and spiritual are intertwined	A subcategory of Euro-Western culture is science.
2	Holistic, communal, contextual	Individuals exist independently of their surroundings.

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3	Inclusive - cooperative - peaceful	What can be measured is what constitutes science.
4	Centred on the earth and natural principles	Emphasis on the material world; lack of the sacred
5	Reverent and respectful of all life	Knowledge is segregated in the scientific approach.
6	Reciprocal and interdependent	Worldview fragmentation, linearity, and hierarchy
7	Wholeness and balance	Reductionist, rational, and mechanistic
8	Fostering a spirit of learning	Idealized impersonal mathematics and Decontextualized
10	Sustainable modes of existence	Materialistic, snobbish, ideological, and exploitative.

To enhance the ability to conduct respectful, culturally sensitive, and endogenous research that takes into account the particular environments and health requirements of Alaska Native and American Indian People, the Alaska Native Tribal Health Consortium and Alaska Pacific University (APU) have partnered to create the Alaska Cultural and Endogenous Research Programme (Marshall 1999). When it comes to training for cultural and endogenous competency, the Alaska Cultural and Endogenous Research Programme is different from traditional methods. It combines a variety of viewpoints and epistemologies, including Western and endogenous worldviews and methods of knowing, in an attempt to promote respect, reciprocity, understanding, and the collaborative development

of solutions to research inequalities. This approach, called "Two-Eyed Seeing," was initially put forth by Marshall (1999) as a means of bridging the gap between Endogenous knowledge study and Western science and culture.

According to Marshall (1999) ‘’The best or strongest cultural and endogenous information and ways of knowing can be seen with one eye, to develop the ability to perceive information with both eyes, for the good of every individual, while additionally learning to see with your other eye, using the greatest or strongest aspects of mainstreaming Western or Eurocentric information and ways of knowing’’. This paradigm calls for an ethical place, or common ground, where culture, endogenous and Western knowledge systems, knowledge bearers, and knowledge generators can live side by side and participate equally in a shared knowledge-building process.

Table 2: The Alaska Native Science Commission outlined these comparisons

S/N	**Scientific Knowledge**	**Culture and Endogenous Science**
1	Considered to be the most precise projection	perceived to be the reality
2	only secular	Combined with secular and sacred
3	Instructional	Educating through narrative
4	Acquiring knowledge through formal schooling	Gaining knowledge through experience and action

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5	Primarily written	Mostly visual or verbal
6	Analytical, utilizing subsets of the entire	Unified, founded on an entire system
7	Based on a concept or idea	Logical
8	The reductionist	Comprehensive
9	Objective	Individual perspective
10	Positivism	Experience

Strategies for Qualitative and Quantitative Research in Culture and Endogenous Studies

Qualitative and quantitative research approaches handle data and analysis differently. Understanding meanings and perspectives is the main goal of qualitative research, which uses non-numerical data such as observations and interviews to investigate ideas and experiences. On the contrary, quantitative research measures variables, tests hypotheses, and finds patterns using numerical data and statistical analysis. Additionally, quantitative researchers use measurement, while qualitative researchers do not mainly use it. However, the distinctions are often more profound and might be seen as two distinct groups of study plans. One way to think of quantitative research is as a method that prioritizes quantification in data gathering and analysis, and thus: The relationship between theory and research is approached in a cultural and endogenous deduction, with a focus on testing local assumptions and theories; the natural scientific model's and positivism's practices

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and norms have been incorporated; and a view of social reality as an external, objective reality is embodied. Social reality models that quantify relationships and flows; applies cultural and endogenous quantitative processing to statistics and research data. The original Statistical Package for the Social Sciences (SPSS) manual (Hempel 2000) has been described as one of "sociology's most influential books". The statistical analysis in this includes: cross tabulation, exploration, descriptive ratio statistics and frequencies descriptive. Additionally, the bivariate statistics, which include: mean test, T-test, Anova, distance correlation and nonparametric tests can be used.

Qualitative research can be viewed as a research strategy that typically prioritizes words over quantification when gathering and analyzing data. It also emphasizes an exploratory stance, typically qualitative; it has rejected the practices and norms of the natural scientific model, and positivism in particular, in favour of a focus on how people interpret their sociocultural and endogenous environment; it has a view of social reality and identity as a constantly shifting emergent property of individuals' creation; and it primarily emphasizes on a cultural and endogenous inductive approach to the relationship between theory and research, with an emphasis on the generation of theories. One advantage of employing inductive reasoning is that it allows for the formulation of several hypotheses. Most researchers who are more into cultural and endogenous

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research prefer to use this approach rather than the quantitative approach. Additionally, it provides rich descriptions of complicated phenomena, the tracking of unusual events, and the illumination of the experience and interpretation of events by actors with vastly disparate stakes and roles. It also gives voice to people whose opinions are rarely heard. In addition, an endogenous variable depends on other variables. If an endogenous variable's value changes, it is because its relationships with other variables in the same model have changed. Since both are impacted by one or more independent variables, they are comparable to a dependent variable.

Table 3: Comparing quantitative and qualitative methods

Stage	Quantitative	Qualitative
Question	Straight-forward query, with or without a hypothesis. A well-defined problem that has been delineated using operational definitions beforehand.	General query, typically without a hypothesis, without a problem definition beforehand, without operational definitions beforehand,
Design	Descriptive and Deductive Longitudinal cross-sectional experiment Semi-experimental Comparative causality Correlational Analysis	Descriptive inductive The phenomenon of Cultural terms Ground-based theory Use of ethno-methodology
Instrument	Clear questions; a wide range of equipment	Unstructured or informal observation

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	that is objective; employ the same instrument or instruments for a single study; reliability and validity	and interview; modify the tool as necessary; investigator as a tool; Triangulation and ongoing comparison
Data collection	Random selection, definite sample, and consistent and standardized data gathering procedure.	One case, purposeful sample; context-dependent procedure. Continuous until sufficient data is obtained; maximum fluctuation.
Data analysis	Following data gathering, statistical analysis, and hypothesis testing.	Continuous; in tandem with the gathering of data, theory development and content analysis
Presentation of results	Following data analysis, narratives, tables, and graphs.	Continuous; story; images
Answering the question	Whether the solution is true or not.	There is always a solution found.

Some academic departments and universities have also adopted either of these methods, just as some people have identified themselves with these traditions. Many universities teach only one technique, sometimes mentioning the other, and have research criteria based solely on one of the approaches. Sometimes, students are "strongly advised" not to employ a certain strategy or are discouraged from doing so. Even in cases

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where students are allowed to select their own methodology, the absence of explicit rules makes it challenging to evaluate the work, especially in Cultural and Endogenous qualitative research. The absurd notion of evaluating qualitative work using quantitative criteria is frequently invoked. In one instance, a student received praise for their efforts but was counselled to add tables and statistics to their qualitative research report. Statistics are not possible in true qualitative research as it does not use numbers. Even a quantitative research report is exempt from the requirement to include tables. Another student who sacrificed quality for quantity by using a big sample was criticized harshly.

Cultural and Endogenous Ways of Learning and Knowing

Every culture has its own unique ways of acquiring and sharing knowledge, as well as ways of interpreting and comprehending reality. The worldviews and beliefs of certain groups or communities, as well as the socioeconomic and ecological circumstances of their livelihoods, influence how people actually learn. In the interest of traditional Western thinking, the universe is seen as having two distinct systems: matter and mind are seen as distinct things, and mental occurrences are sometimes viewed as irrelevant. These worldviews also use duality to clearly distinguish between the researcher and the researched, the teacher and the student, the creator and the created, and man and nature. Most people define learning as the

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process by which a teacher imparts knowledge, attitudes, or skills to a student. Learning is supposed to affect attitudes, behaviour, perceptions, values, and self-image (Dove 2000). Perception, interpretation, or imitation are typically accompanied by reflection based on experience gained, introspection, or observation. Because of this, there are differences between the roles and obligations of educators, teachers, and trainers, and those of trainees and learners.

The world is frequently viewed holistically in cultural and endogenous research. Only a portion of the living things that make up the world are thought to be human. In these, learning is viewed as the outcome of interactions between many entities rather than as the work of human "subjects," who instruct and learn about "objects." Local leaders, healers, counsellors, elders, and spiritual guides are just a few examples of the various roles that people may play in learning and conducting research. Depending on the circumstances, the roles of teacher and learner are dynamic and always shifting. Therefore, activities categorized as "research" are not limited to those with academic training. The process of learning more through research involves participation and contributions from a variety of individuals. Every knowledgeable society has its own established procedures for learning and gaining knowledge.

Michell et al. (2008) indicated that trying to comprehend culture and endogenous knowledge and research methods from a

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Eurocentric (Western) perspective might provide challenges. Community or societal worldviews are infused with culture and endogenous viewpoints. The lens through which place-based epistemologies, approaches, and pedagogies might be expressed is a community or society's worldview. Even though people originate from a variety of cultural backgrounds, they all share the belief that humans and the natural world are closely related. They contend that for individuals to comprehend and appreciate cultural diversity, they must first recognize the distinctiveness of each knowledge system. The following cultural and endogenous perspectives are very important when it comes to research.

1. Endogenous knowledge cannot be reduced to discrete categories.
2. It cannot be isolated from its carrier and formalized into a definition.
3. It is not a uniform idea among all Indigenous Peoples, and it does not fit into the Eurocentric concept of culture.
4. Endogenous thought does not separate philosophy, religion, art, science, or aesthetics; these categories do not exist.

The consensus is that culture and endogenous African education and knowledge are a basic socialization process that involves preparing children for employment in the home, village, and

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within a certain ethnic area. Therefore, Western globalization ideas about structural adjustment cast a shadow over most current discussions of culture and endogenous African education. This, in turn, portrays it as a stagnant, limited, and ineffective paradigm, leading some to conclude that any serious discussion about the transmission of values and its accumulated knowledge in Africa is pointless. However, through an African-centred synthesis, one might start to understand the unique characteristics of indigenous epistemologies and methods of knowing. Understanding education as a means to an end, social responsibility, spiritual and moral values, participation in ceremonies and rituals, imitation, recitation, demonstration, sport, epic, poetry, reasoning, riddles, praise, songs, story-telling, proverbs, folktales, word games, puzzles, tongue-twisters, dance, music, plant biology, environmental education, and other educational centered activities that can be recognized and examined are all part of closely examining culture and endogenous African education and knowledge (Barnhardt & Kawagley 2005).

Utilizing local resources and implementing local projects

People from both urban and rural areas have demonstrated a variety of strategies and insights that have helped them endure in trying situations. With their site-specific soils, plants, trees, crops, wild and domesticated animals, climate, and broader ecosystem, the locals offer resources with development potentials and constraints that are sometimes overlooked or

undervalued by outsiders. The leadership, local specialists, and social organizations are very diverse. Under the surface, traditional and spiritual leaders have a significant influence in daily activities and decision-making, although these traditional social organizations are frequently undermined. The true contributions and possibilities of local economies' saving, investing, income-generating, and marketing mechanisms are frequently underestimated. Local economies, worldviews, and social structures are not always readily accessible or easy to understand. Rural residents' sense of resource ownership and efforts that adopt a fresh perspective on development have been facilitated by field workers' acceptance and respect of people's worldviews. Social and cultural resources are frequently underutilized, but when given proper consideration, they can improve a community's ability to make use of its resources (Millar & Derbile, 2018).

Realism in Social Science

Positivism and realism support the idea that there is an external reality to which scientists focus their attention (i.e., a reality distinct from our description of it) and that the natural, cultural and social sciences can and should use the same types of approaches to data collection and explanation (Eliasu 2023). When realistic characters are used across a complex plot, realism is demonstrated. Focusing on societal difficulties, everyday struggles, and everyday truths and primarily on middle- and lower-class individuals, are all components of realism.

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Critical realism

A subset of realism known as critical realism asserts that "we will only be able to understand and so change the social world if we identify the structures that generate those events and discourses"(Babbie 1992). Its manifesto calls for acknowledging the reality of the natural order as well as the events and discourses of the social world. Critical realists, unlike naïve realists, understand that the terms they employ to characterize, explain, and comprehend the objects of their investigations are distinct from the objects themselves. Therefore, fictitious entities that explain regularities in the natural or social ordering are entirely acceptable to realists but not to positivists. Since the results of generative mechanisms are observable, critical realists agree that the lack of direct observability is acceptable.

Interpretivism

The term "interpretivism" refers to an epistemology that differs from positivism. It is predicated on the idea that the social sciences' focus on people and their institutions is essentially distinct from the natural sciences' (Gibson & Pick 2000). Therefore, a different logic of research technique is needed for the study of the social world, one that takes into account how unique humans are in comparison to the natural order. Social reality, the social scientist's observational area, has a particular meaning and relevance structure for the creatures that live, act, and think there. They have pre-selected and pre-interpreted this

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universe, which they perceive as the reality of their everyday lives, using several commonsense notions. Their motivations for their actions are determined by these thinking objects. To understand this social reality, social scientists thought objects must be based on the common sense of culture and endogenous ideas of men and women who go about their daily lives in the social world.

Constructionism

Constructionism adopts a different ontological stance. Constructionism views social players as external facts that cannot be controlled and contests the idea that categories such as organizations and culture are predetermined. In addition to being created by social interaction, social phenomena and categories are always being revised. The idea that academics' own descriptions of the social environment are fabrications has also been incorporated into the phrase in recent years. Stated differently, the researcher consistently offers a certain interpretation of social reality rather than one that can be considered conclusive. In addition to being opposed to objectivism, the second interpretation is also opposed to realism.

Action Research

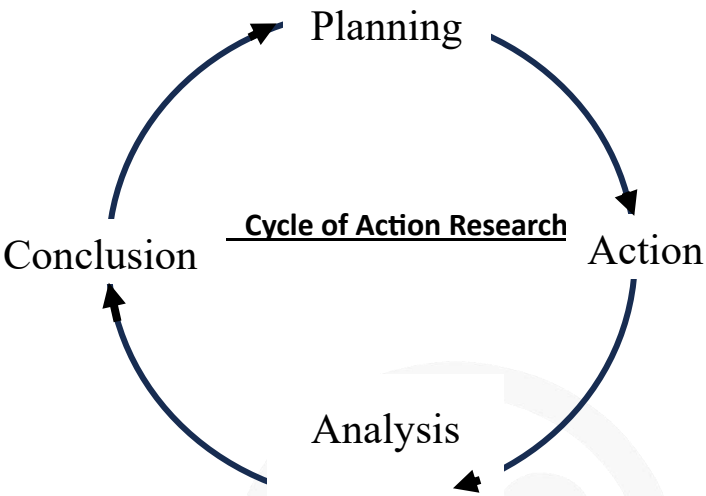
The interactive inquiry technique known as "action research" strikes a mix between collaboratively applied problem-solving measures and data-driven collaborative analysis or research to

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identify root causes and make predictions about future organizational and personal transformation (Rosenberg, 2015).

Gay (1998) suggested that action research encompasses a variety of research approaches (e.g., Participatory Action Research, action learning, soft systems methodology) that seek to pursue action and research objectives simultaneously. As a result, some of its components are similar to field research, while others are more like consulting or change agencies. Action to better a situation is the main focus, and research is the deliberate attempt, as part of the process, to provide public information that complements theories of action that either facilitate or impede learning in behavioural systems. In this regard, the participatory action researcher is an interventionist and practitioner who works to enhance client systems. However, to achieve long-lasting improvement, the participatory action researcher must assist clients in changing so that their interactions will foster these circumstances for learning and inquiry. Therefore, we may add a third goal of participatory action research, developing the self-help competencies of individuals experiencing problems, to the objectives of improving issue circumstances practically and increasing public understanding.

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Participatory Action Research (PAR)

Participatory Action Research (PAR) is a type of research in which all pertinent stakeholders actively examine present practices they perceive problematic to modify them. They accomplish this by critically analyzing the various settings that make sense of it, including historical, political, cultural, economic, and geographic ones. Participatory action research is more than just a study with the expectation that action will be taken. Throughout the research process, participants study, modify, and re-research the action. It is not just a fancy kind of consulting, either. It seeks to be active co-research, by and for the people who will be aided instead. It also cannot be used by one group to influence another group to do what they believe is beneficial for them, such as

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implementing a central policy or changing an organization or service. Rather, it aims to be a truly democratic or non-coercive approach in which the people who are going to be assisted decide on the goals and conclusions of their own research.

The "research" components of PAR are an attempt to steer clear of the conventional "extractive" research conducted by governments and institutions, in which "experts" visit a community, observe their subjects, and collect data to create papers, reports, and theses. In PAR, research should ideally be conducted by and for the local community. The Research is intended to address the cultural and endogenous particular problems that locals have recognized, and the findings are immediately applied to the challenges being faced. Researchers and the community first identify the main issues, worries, and difficulties, then they do research, start an action, learn about it, and move on to a new cycle of research and action. This is how PAR works with culture and endogenous research. This is an ongoing effort. Action Research project participants regularly evaluate what they have learned from the actions and then take immediate action to start new ones. Results are extremely unpredictable, obstacles are significant, and accomplishments rely heavily on the dedication, inspiration, and inventiveness of the researcher.

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Picking a Method or Methods

An essential component of every study design is selecting a method, or a combination of methods. The question, "What methods shall I use for my cultural and endogenous research?" cannot be easily answered due to the complexities involved. The intended contribution of the research to the overall strategy, the topic's nature, individual preferences, experience and skill levels, the amount of time and funds available, any access restrictions, and ethical considerations will all influence the best research design for your project. Additionally, research methods may not be available for specific-goal studies, such as culture and endogenous development research. Certain techniques must be created specifically for that purpose.

Methods for characterizing the scientific paradigms involved, assessing the endogenous learning strengths and limitations of processes and the sciences, and facilitating inter-science communication and policy discussions may not be easily accessible. Nevertheless, we can develop and test new techniques, expand upon current research methodologies, and employ what is suitable.

Here are some outlines of a few research techniques and approaches that can be used as a beginning point for developing methodology for cultural and endogenous research.

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Which Way for culture and endogenous research?

Students and novice researchers must decide on a research strategy or an approach. As previously stated, some students do not have many options; however, the following tips might be helpful. A student may only have to comply with departmental requirements simply because they are enrolled in a particular university or department. Subject matter. The subject or topic of the study (physical phenomena, social phenomena, or both).

- **Research goal:** A qualitative technique can be more suitable if the goal of the study is exploratory. Additionally, a qualitative technique should be chosen if the study's goal is to provide a thorough knowledge of the phenomenon.

- **Context** - The qualitative technique is superior if the goal is to demonstrate how objects function in the natural, cultural, endogenous and social environment; the quantitative approach is more appropriate if the goal is to find universal principles.

- **Possible applications of the findings:** Research can be done for a variety of reasons. One justification might be to advance a particular viewpoint. Because qualitative research leaves a stronger impression than quantitative research, women's and African studies may be more inclined towards it (Creswell 1998). For instance, a

qualitative study which demonstrates that "health workers' cruelty to patients knows no gender bounds" does not seem normal, but quantitative research demonstrating that there is no gender discrimination in the way healthcare professionals treat patients seems normal.

- **Expertise of the researcher:** People frequently choose a strategy because it is within their capabilities. If using a strategy would produce a superior result, people must learn how to do it. Occasionally, the method is actually dictated by the students' supervisors. The student should inquire as to whether it is possible to use a strategy that the supervisors find uncomfortable. Guidelines and supervisory concerns ought to be resolved. Sometimes, supervisors disagree on which approach to use, one favouring a quantitative approach, the other favouring a qualitative one, and students have been forced to drop their work. But mostly qualitative research favours culture and endogenous researchers.

- **Time availability:** It may take longer to finish qualitative research, depending on the study's magnitude, especially when the research is more of culture and endogenous in nature.

- **Resource availability:** It might be more expensive to employ one strategy than the other, depending on the investigation. Compared to qualitative research, quantitative research with large sample sizes may need a lot more resources. However, some participant observation-based qualitative research can be very expensive.

Community Immersion Experience (lived by experience)

The cultural and endogenous research approaches seek to provide postgraduate students a comprehensive and transformative experience, empowering them to develop into socially conscious, empathetic, and culturally sensitive people who actively improve their communities and the wider world (Bamberger et'al, 2011). Students are required to choose a neighbourhood or local community to investigate and learn more about. It could be an ethnic or cultural enclave, a rural or urban location, or any other community that piques their interest. However, they should ensure that people can visit the community safely and easily. Do an extensive study on the selected community before starting your community immersion programme. The student must investigate its history, demographics, socioeconomic circumstances, prominent organizations, and any pertinent endogenous and cultural practices. This background information will improve comprehension and interactions when visiting. Participate "live"

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in the Community. Live and engage with the people in the community of your choice for a predetermined amount of time. It's critical to interact with the community openly and courteously, looking for opportunities to learn from its members and take part in their events.

During your visit, take note of the local businesses, public areas, infrastructure, social dynamics, and any distinctive cultural features that catch your attention. To record your experiences, ideas, and reflections, take notes, take pictures, or start a diary. Interviews and Discussions: Have discussions with people of the community, including locals, entrepreneurs, civic leaders, and cultural leaders. To learn more about their viewpoints, experiences, and difficulties, provide open-ended questions. You will gain a better grasp of the community's needs, goals, and strengths through these interactions. During your visit, actively look for ways to make a positive impact on the community. Your involvement will not only make a difference but also strengthen your ties with the community, whether through volunteering at a local group, attending events, or helping with existing projects (Butin, 2010). Appreciate their Culture and their endogenous development ideas. Accept and value the community's diversity of cultures. Take part in cultural events, sample regional food, and discover the customs and traditions of its members. Develop respect for the community's distinctive history and help to maintain its cultural character. Describe the community's strengths, weaknesses, and possible development

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opportunities. Consider how this experience has affected your comprehension of societal concerns, community dynamics, and your responsibilities as a responsible citizen. Give a departmental seminar presentation to your peers about your experience living in a community. Make a presentation that highlights the community's important features, your experiences there, and the lessons you've learned. To improve your presentation and engage your audience, include visual aids like photos, films, or personal artefacts. This will help you write your thesis and complete it on time.

The following are expected to be met after going through this research approach

1. Learn about the customs, culture, and way of life of the community firsthand.
2. To promote empathy, establish connections with community members, hear their stories, and comprehend their viewpoints, difficulties, and goals.
3. Permit students to make constructive contributions by helping out, volunteering, or taking part in community events.
4. Promote a greater comprehension of the complexity and variety within society by raising students' knowledge of social issues and difficulties that other populations confront.

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5. As students venture beyond their comfort zones, adjust to new situations, and encounter obstacles that foster resilience and character development, encourage personal growth and introspection.
6. Through encounters with community people, students can improve their interpersonal and communication skills by developing good listening, discussion, and cross-cultural communication.
7. To foster critical thinking and problem-solving skills, encourage students to observe, evaluate, and consider community dynamics, infrastructure, and difficulties.
8. Foster a feeling of global citizenship by encouraging awareness, respect, and admiration for various communities, as well as a dedication to social responsibility and active involvement in bringing about constructive change.

Developmental-Ecological System Perspective of culture and endogenous research approach

According to Bronfenbrenner and Morris (2006), the framework, approach or methodology includes a "developmental-ecological" system perspective. Developmental-ecological frameworks or approaches examine how people shape and are shaped within intricate and dynamic cultural and endogenous historical contexts by drawing on the disciplines of ecology and human development. Human development studies the process

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(or causes) of change as well as the loosely connected ensemble of biological, psychological, and social changes that people experience in a community throughout their lives (Cole & Gajdamaschko, 2007). These changes might be common to all people, or they might differ in timing and content depending on the historical and cultural setting. The study of how organisms interact with their surroundings is known as Ecology. Therefore, biological, psychological, and social traits as they evolve in connection to a specific cultural and endogenous historical environment would be considered in a developmental-ecological analysis of a community.

According to Cronbach (2010), psychological developmentalists are curious about how individuals evolve and change throughout the course of their lives in their communities. The reciprocal interaction between an individual and their ecological surroundings, in which both the individual and the circumstances they find themselves exert a mutually accommodating impact, defines human development. According to Cronbach (2010), the environments need to be viewed as "systems." Additionally, he argued that there are several impacts on an environment in any particular setting that cannot be fully comprehended without examining how they interact.

"Basic science needs public policy even more than public policy needs basic science," according to Bronfenbrenner & Morris

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(2006). According to their notion, development reflects the impact of various cultural and endogenous environmental systems. The microsystem, mesosystem, exosystem, macro system, and chronosystem are five of these systems that they went on to identify in culture and endogenous research.

Bronfenbrenner & Morris (2006) proposed the developmental ecology model as a fundamental research approach tool to shift away from the conventional focus, which views an individual's environment rather than their relationship with it as the most significant factor in their development and effectiveness. Every one of these systems has a unique impact on a person's psychological growth. For example, poor inner-city families face more social issues than middle-class rural or urban families when it comes to macro systems. Conflict in one system harms all the others since the systems are so interconnected. Also, they prefer to concentrate on the growth process than isolated elements at a certain moment in time. Nonetheless, Bronfenbrenner and Morris' (2006) approach considers the context and quality of the community surroundings.

American psychologist, Gibson (2000), highlighted the significance of the environment and its context in teaching and learning. To support this idea. She maintained that perception was essential because it enabled people to adjust to their surroundings. She also concurred that educators acquire the ability to identify details about things, occasions, and

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arrangements in the real world that they might apply to their everyday tasks. Humans, therefore, acquire knowledge out of necessity. According to Gibson (2000), a complicated relationship between environmental affordances and the motivated human who sensed them drove growth. Humans find more affordances and develop more accurate perceptions the more opportunities they have to observe and engage with their surroundings.

Since the ecological systems theory was first proposed by Bronfenbrenner and Morris (2006), psychologists, cultural and endogenous researchers worldwide have been impacted by it. This is especially true in the field of qualitative research and the beliefs of the people. We go into further detail about the different parts of the ecological systems approach below.

- **Microsystem;** this describes the microsystem as the little context in which a person lives in a community. This is where the most direct communication occurs. Engaging with children and parents, attending workshops, and pursuing professional development are a few instances of microsystem activities. A child's early years and interactions with educators are the most crucial time for learning. The way these people and organizations engage with the child has a significant impact on their learning.

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- **Mesosystem;** This is the interactions among many components of the microsystem and how they cooperate to benefit the child. For instance, a child's learning may be impacted by the relationship between the experiences of the teacher educator and the school. A child's learning may be impacted if he rejects a good student-teacher relationship. Positive teacher educators' "efficiency" is also influenced by the school setting. Additionally, the effectiveness of teacher educators in implementing new curricula is greatly influenced by outside activities.
- **Chronosystem;** The inefficiency of teacher educators is also influenced by environmental events, transitions, and the passage of time. Transitioning from one era to another may cause environmental issues that affect a child's academic performance.
- **Exosystem:** This refers to the relationship between an individual's immediate context and a social setting in which they do not actively participate. It is also the surroundings that have an impact on a person, even when they are not directly involved in them and are outside of their experience.
- **Microsystems;** The last level of the ecological system approach is called microsystems, and it deals with the biggest and most isolated individuals and objects that affect the lives of a community. This system involves the

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government, the economy, conflicts, beliefs, customs and cultural values.

According to Millar et'al (2018), the following summarizes a selection of social science approaches, tools and methods that can be applied to cultural and endogenous research design, data collection, and data analysis, and these are presented in Table 4.

Table 4.

Instrument/ Procedure	**Description**	**Uses**
Comparative Study	An examination of several analyses that compare traits, qualities, or specific treatments in two or more contexts.	To compare a single attribute or the same group across time (also known as longitudinal comparison).
Case Study	A thorough examination of problems at certain times and places.	To determine the majority of the groups' attitudes, perceptions, and beliefs, as well as how those groups interact with one another.
Analysis of costs and benefits.	A tool for calculating the alternative with the highest net benefit (benefits less expenses) by weighing the costs and advantages of suggested projects	To determine the most economical alternatives or to comprehend the social costs and advantages of the protected area for stakeholders.

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Content analysis	Examining newspaper articles, book manuscripts, websites, interview transcripts, and other documents to find underlying meaning or to qualify the use of certain words or phrases.	To assist in spotting trends and patterns in discussions of political, social, and biological events. Identifying patterns that illustrate related attitudes, perceptions, and values.
Focus groups	Focus groups are interviews conducted in groups of eight to twelve people on a certain subject.	To determine views, attitudes, and opinions regarding a particular concept. Focus groups may also determine a survey design.
Ethnographic research	A way to gain a thorough grasp of the background, customs, beliefs, values, and history of the communities and surrounding resources under study.To have a deeper understanding of the stakeholder groups they engage with.	To expose cultural and endogenous norms and values to assist managers in determining how these practices and beliefs impact management and the community.
Demographic analysis	An instrument for researching the size, growth, density, and distribution of human populations.	To bring attention to patterns in the density, size, and dispersion of people living in communities.

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Historical research	An examination of historical resource utilization as well as the demographic and social traits associated with a certain geographic resource. One kind of study of secondary data is to ascertain the community's structure and historical social attitudes, as well as how these have evolved.	To determine how attitudes, views, values, group and community uses have changed throughout time.
Surveys	A standardized set of questions that can be given in person, over the phone, online, or by mail.	To gather data and viewpoints on certain concerns from a representative sample of stakeholders.
Systems of geographic information.	An array of data, software, and technology that lets people work with, examine, and present geographically related data.	To track human usage trends, pinpoint culturally sensitive sites, rank areas for more public access, or draw attention to demographic shifts in a community.
Social network analysis	A technique for gathering, analyzing, and visualizing information on	To determine how and how quickly new ideas or information will move in a community,

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	relationships and communication patterns in a community.	as well as to identify opinion leaders and other prominent people in the community and those in charge of information dissemination.
Interviewing	An approach for getting responses to preset questions from one person at a time. It is possible to alter questions to suit a certain circumstance.	To get in-depth information from people that might not be published or available in writing. To shed light on one's own emotions and experiences.
Non-market valuation	A process for calculating the economic worth of things like ecosystems and environmental services that don't have a market value that can be assigned.	For determining the worth of any resource or usage that lacks assignable emotions and experience, such as a beach or reef.
Evaluation of the social impact	Used to forecast the effects of changing policies or implementing managerial resources.	To forecast the likely effects of enforcing laws and regulations and to determine how individuals and communities would respond to changes.
Observation	A method of collecting data based	To gather data about social groupings,

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	on first-hand observation and documentation of human actions and behaviours.	community conduct, and the utilization of resources in everyday contexts.
Secondary data	Examination of information gathered by parties other than the researcher. These data include of maps, census information, newspapers, and more.	To use the data and information now available to determine or analyze the traits of a population, group, or problem.
Forecasting models	A method that builds a model to mimic actual circumstances in order to forecast future circumstances.	To comprehend the potential long-term effects of management choices and to avert issues in the future.

Anthropological Research

Anthropological research has primarily been used to investigate the knowledge, worldviews, and cultures of people who are not part of their own culture (D'Andrade 2005). Various scholars have used various approaches and methodologies, techniques, and placed varying emphasis on this approach. The fact that the so-called "objects" of the various anthropological research are rarely able to access the studies is one of its drawbacks. Endogenous and cultural researchers rarely have access to the articles in scientific journals and university libraries. Endogenous

and Cultural researchers find it challenging to comprehend and apply the findings for their personal gain due to the language used in these investigations.

One way to characterize Anthropological research is its function; it serves as a conservation activity in culture and endogenous research. However, it had little effect on endogenous and cultural belief protection. Romney et'al (2008) posit that the establishment of endogenous and cultural knowledge centres and decentralized databases will be the remedy. Some anthropological approaches that are particularly pertinent to our focus in this book are not exhaustive. Romney (2009) also indicated that Research methods in anthropology have more details on anthropological methodology or approaches.

Anthropology of Structure and Function

This approach or method emphasizes social structures, placing them at the centre of investigation, and uses these structures to infer social functions. The claim that one may research the social world in the same manner as one studies the physical world derives from the emphasis on the scientific method or approach. As a result, functionalists believe that the social environment is observable and "objectively real "(Seltzer 2001). It examines how ideas like hot-cold, male-female, culture-nature, and their connections to cultural institutions and mental processes structure social order in a community. It employs ethnography, participant observation, and linguistic analysis of the study's

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subjects' myths, metaphors, etymologies, morphologies, lexis, and syntax. They attempt to comprehend their information, paradigms, and worldviews in this way.

Anthropology of Symbols

To answer basic issues about human social existence, symbolic anthropology investigates symbols such as myths, rituals and how people give them significance. Geertz (2002) asserts that for man to orient himself, he requires symbolic "sources of illumination." According to symbolic anthropology, culture can be understood as a separate system of meaning through the interpretation of important symbols, rituals, myths, songs, stories, visual arts, and social structures such as kinship and political organization. The following techniques are employed: social drama, cross-cultural comparison, and hermeneutics, which combines subjective understanding of human events with scientific research.

Anthropology of Mental Functions

The study of cognition focuses on what people know and how that knowledge, which is frequently implicit, affects how they view and interact with the world (Michell et'al 2008). It examines people's understanding of reality based on their own native cognitive categories rather than the anthropologist's. Each culture and endogenous knowledge systems arrange things according to its own standards. Cognitive anthropology's primary goal is to accurately depict other people's logical

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thought processes using standards that may be found and duplicated by examining the concepts and language they employ (Brown, 2006). Techniques employed include similarity techniques, which assess how similar certain cultural and endogenous items are to one another. The process of rating elements on a conceptual scale is known as ordering. Respondents are classified as "correct" or "incorrect" based on how they complete a given task using test performance techniques.

Cultural ecology or ecological anthropology

This entails researching the relationship between nature and human activity in a community. Studying carrying capacity, adaptive mechanisms, homeostasis, degradation, erosion of natural and social resources, and bio-cultural variety are some of the approaches or methods used (Colby et'al 2001). Other methods include identifying technology and behavioural patterns used by humans in the utilization of natural resources. Political ecology examines the functions of power disparities and inequality, poverty, caste, class, and gender. Mechanisms for resolving disputes in natural resource management, both conventional and contemporary. Developing and formulating endogenous science theories, and Cultural ecology or ecological anthropology

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Ethno-sciences and Actor Oriented Anthropology

The study of ethno-scientific fields like ethno-botany, ethno-zoology, ethno-veterinary, and ethno-medicine is known as ethno-science **(**DeMunck, 2009). Some of these studies use biology and anthropology, which are Western sciences, as the baseline to "recognize endoigenous, culturally agreed categories, which are to be 'discovered' by ethnographers through careful questioning and answering." The actor perspective was developed by Norman Long and the Wageningen school to study development intervention processes and to understand concepts, such as knowledge, power, and agency, as well as interface situations where various life worlds interact, interpenetrate, and reorganize themselves **(**Verschueren, 2010). This approach can be seen in the research of Paul Richards on farming knowledge in West Africa, Gene Wilkens on Good Farmers in Mexico, and G.G. Martens on traditional agriculture in Southeast Asia.

Anthropological Linguistics

This is the study of how language and endogenous culture interact, as well as how human biology, cognition, and language are related (Verschueren, 2010). This has a lot in common with linguistic anthropology, the area of anthropology that examines people through their language use. This discipline has played a significant role in the study of visual perception, particularly colour, and bioregional democracy, two fields that focus on

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linguistic disparities about perceptions of the environment. There are additional ramifications for sociology and people's self-organization from traditional linguistic anthropology. For instance, research on the Penan people shows that their language uses six unique terms, all of which can be best translated as "we" in English. Similar to the study of language differences in the colours of the rainbow, anthropological linguistics examines these differences and links them to different types of societies and actual bodily adaptation to the senses (Verschueren, 2010). It views the tendency to increase term diversity as proof that bodies in this environment must make distinctions, which may result in situated knowledge and even a situated ethics, whose ultimate proof is the differentiated set of terms used to denote "we." The focus of anthropological linguistics is on:

- Descriptive (also known as synchronic) linguistics: describing dialects, which are variations of a language spoken by a particular speech community. Grammar, syntax, semantics, phonology, and morphology are all covered under this.

- Historical linguistics: Explaining how dialects and languages evolve throughout time. This research encompasses etymology, philology, comparative linguistics, and the study of linguistic divergence and language families.

- Ethnolinguistics: Examining the connection between language, culture, and thought.

- Sociolinguistics: Studying how language serves social purposes and how members of speech communities interact with one another on a social, political, and economic level.

Etymology

The study of etymology examines how words have evolved in terms of both form and meaning in culture and endogenous research. For languages with a lengthy written history, etymologists consult books written in and about the language to learn about the usage of terms in the past and when they first appeared. Etymologists also use comparative linguistics techniques to piece together information about languages that are too old to have direct knowledge on (Philip, 2006). Linguists can gather information about their common parent language and its vocabulary by using a technique called the comparative method to analyze related Cultural languages. As a result, the word originates from the beginning of the Indo-European language family (Philip, 2006).

Etymologists apply several approaches or methods to study the origins of culture and endogenous research. Some of these include:

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- Philological investigation. If older texts are available, they can be used to trace changes in the word's meaning and form.Sing dialectological information.
- Distinct dialects may differ in the word's form or meaning, which could provide hints about its past.
- The comparative approach. Etymologists can identify words that originated in a common ancestor language and those that were later borrowed from another language by systematically comparing related languages.
- The investigation of semantic shift. It is frequently necessary for etymologists to speculate about how the meaning of specific terms may alter. Semantic shifts are a common knowledge that is used to test such theories. One way to support the assumption of a specific change in meaning is to demonstrate that the same kind of shift has taken place in numerous other languages.

Ethnography

Anthropology is a major source of inspiration for the ethnographic approach to qualitative research. In ethnography, examining a whole culture and the endogenous systems of a community is the main focus. The concept of culture and endogenous systems is always associated with ethnicity and

place. In other words, we can research a company's or specific group's "culture." Ethnographic research might involve a researcher immersing themselves in a particular community, such as a corporate office or a remote village, to observe social interactions and cultural traditions for firsthand information. It can also involve researching online communities, such as discussion boards or gaming clubs. Other examples include studying the daily lives of street hawkers, paying attention to how customers use products, or examining how people behave in hospital waiting rooms. Similar to grounded theory, an ethnographic study has no established boundaries for what can be seen and no definitive conclusion **(**Alonso et'al 2019).

Ethnographers aim to obtain what is known as "emic" perspective, or the "native's point(s) of view." One distinctive and important aspect of anthropology is the emic worldview, which can differ significantly from the "etic," or outsider's perspective on local life **(**Alonso et'al 2019). This entails fully integrating into a culture to watch and engage with its people for an extended length of time to have a deep understanding of their way of life.

Genealogical Studies

The tracing of a person's ancestry through official and unofficial historical data, such as census records, is known as genealogical research (Mette, et'al 2025). Vital Records (such as marriage and divorce certificates, birth certificates, adoption certificates,

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important landmarks and death certificates) are relevant because a researcher needs to employ a social situation analysis in the genealogical studies portion of any project. Data can also be collected by using pathway analysis, genealogical tree analysis, and three-generation analysis. Among other benefits, a three-generational approach offers the following, as indicated by Millar et'al (2004). It ensures a historical dimension that facilitates the analysis of transformation processes. The researcher can access specific information about hundreds of people by selecting patrilineal societies, which include all living seniors' descendants of the father's father (grandfather) (males, along with their wives and, if possible, some knowledge of their daughters). As a point of reference for additional study in a local and regional context, this knowledge is crucial. The researcher is compelled to take into account everyone, not just those with whom they have a good relationship, to gather knowledge.

To analyze processes of socio-economic and political differentiation (including the eventual formation of classes), changes in the agricultural system, the relative importance of agriculture and other economic activities, the process of commoditization and its effects on men, women, and youth, and the dynamic synthesis resulting from the interaction between existing structure and culture and external influences, the actor-oriented approach gives the researcher the data they need. It draws attention to the unique dynamics of some

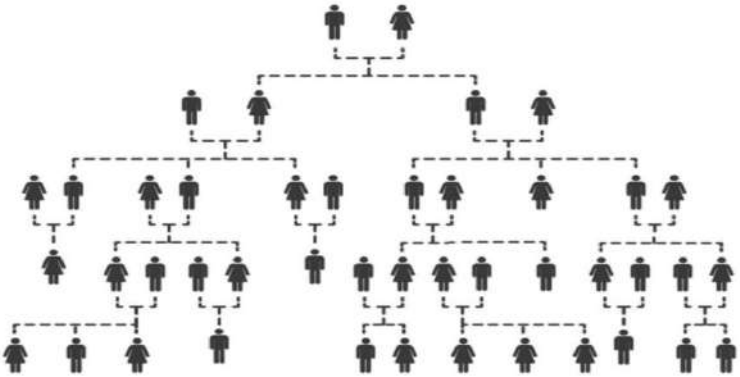
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groups of individuals, both alive and dead, who are present or absent in the local context, as examples of broader processes of change that occur in the socioeconomic and political sphere.

This method ensures that the potential connections between locals and migrants are never overlooked. Interviews can be conducted with the oldest members of the chosen families, who were highly knowledgeable about the families' past, using the instruments mentioned above. They were primarily the families' elderly sons or daughters, grandparents, or grandfathers themselves. A family tree can be built with their assistance, starting with grandparents and down to the grandchildren through their sons and daughters. It is occasionally carried on to the great-grandchildren. Since the study is a tree-generation study, the trees stopped at the grandchildren's level.

Example

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Once the family tree has been constructed, ask them to list the living and deceased along with their relative positions. You then ask them to mark against each person whether they have ever migrated, when they did so, why they did so, where they moved to, where they are now, what they are doing for a living, and whether they are still a migrant or a returning migrant. Request for those who are still migrants, specify their precise whereabouts so that you can track them.

Migration studies

The second Phase of the genealogy research is to locate the migrants who reside in different regions of Ghana. These include some members of the other families included in the original families sampled for the primary study, in addition to the families whose trees were built and displayed in this investigation. As a culture and endogenous researcher, you

need to travel extensively during the tracing, visiting towns, cities, villages and communities across the nation. The migrants will be difficult to track down. Sometimes it's difficult to pinpoint the precise locations. They typically prefer to talk about problems with their elders or sub-chiefs present. Attempt to connect with the individuals who need to be interviewed once you have been convinced of the researchers' aims. This strategy may prove highly successful, especially since some of the migrants may have been chiefs, elders and opinion leaders themselves.

The following should be covered in the interview: when and why they left their hometowns; how long they have been living outside; what jobs they are doing; networks they have built in the destination areas; how they connect with people back home; how often they send money home; how often they visit home; and how they connect with their hosts.

Case Study

This method offers a thorough examination of the distinctive traits and experiences of a particular cultural group, community, or organization. Case studies are research projects that aim to provide a comprehensive explanation of the dynamics of a certain historical period of a particular social unit, according to Stoecker (1991). In an effort to define a case study, according to Manski (2009), the phrase "case study" might relate to several distinct epistemic entities; hence, it is

important to define its precise meaning right once. In its most basic form, a case study can be defined as "the basic descriptive material an observer has assembled by whatever means available about some particular phenomenon or set of events," according to Manski (2009),

A case study, according to Manski (2009), is "an observer's data, that is, the documentation of some particular phenomenon or set of events which has been assembled with the explicit end in view of drawing theoretical conclusions from it ". A case study might focus on a single person, as in the life history approach, or it can focus on a group of actors involved in a series of activities over a limited or long period. Stoecker (1991) explains a case study as "a detailed examination of an event (or series of related events) which the analyst believes exhibits the operation of some identified general theoretical principle" to operationalize the term.

Types of Case Study

Rebecca (2020), Creswell et al, (2003) classifies case studies into exploratory, descriptive, explanatory, intrinsic, instrumental, and collective are the primary categories of case studies. While descriptive studies provides a thorough explanation of a phenomenon, exploratory studies considers a condition before formulating particular study questions. Collective studies look at several examples to identify common patterns, instrumental studies use a case that has bigger concerns, explanatory studies

seek to understand the "how" or "why" behind events, and intrinsic studies concentrate on fully comprehending a single case (Rebecca (2020). Nonetheless, Rebecca (2020) argues that they could be seen as existing on a spectrum of growing complexity. What is known as "the apt illustration" is at the simple end of the spectrum. This is typically used to describe a reasonably straightforward incident or occurrence that clearly illustrates how a basic concept operates. A social situation is a group of occurrences that occur within a comparatively constrained time period and that the analyst can interpret as related to one another in a cultural and endogenous context.

A social scenario analysis allows the analyst to examine a small and constrained set of occurrences to show how general social organization principles appear in a given context. On the continuum, the extended case study is at the complex end. The fundamental analysis of case material is further developed in this way. It deals with a succession of occurrences, often spanning a considerable amount of time, in which the same players are involved in several circumstances where their structural positions need to be continuously re-specified, and the actors' flow through various social roles explained in the context of culture and endogenous research. The analyst may see how events are connected across time and how they chain together with this kind of case study.

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Primarily, endogenous and cultural researchers tend to prefer qualitative research over quantitative. Endogenous knowledge and learning, and culture in particular concerns more about the historical evolution of human attitudes, customs, beliefs, values, behaviours, and lifeworld's that have evolved by combining daily individual and collective experiences with facts to produce new learning with distinct characteristics and rationalities. In case studies, Meyer (2001) proposed that intrusive and non-intrusive participant observation are frequently used. To create field histories, guided questions and checklists are also used interchangeably because the majority of study participants may not be able to read, write, or maintain written records. Therefore, to delve into their experiences, their recollections had to be relied on.

Being open to accepting different realities is the best way to understand culture and endogenous knowledge

Culture and Endogenous worldviews incorporate both culture and endogenous system perspectives in research. Place-based pedagogies, approaches, and epistemologies can be expressed through this viewpoint. Despite coming from a variety of cultural backgrounds, Aboriginal Peoples share the belief that humans and the natural world are inextricably linked. They contend that the first step in appreciating and comprehending cultural diversity is for people to recognize the distinctiveness of each knowledge system (Rwabyoma, 2019).

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It is possible to shed light on and refute the positivist Western science paradigm as the exclusive model for the pursuit of truth by comparing knowledge systems. More significantly, positivist Western science philosophers might want to consider the analogies as a point of clarification. They can be contested as being only partially true and helpful, just as the majority of dichotomous comparisons (Rwabyoma, 2019).

Knowledge and Research by Traditional Communities

Every community uses a different strategy to gain a deeper comprehension of the issues they pose. People have their own sciences, knowledge, and methods for learning and conducting studies. Within the mainstream epistemological framework, the mainstream sciences have evolved a particular methodology for categorizing and comprehending culture and endogenous knowledge systems. Cognitive anthropologists have dubbed this "ethno-science."(Lebakeng, 2014)

The focus of culture and endogenous research has shifted to understanding local knowledge communities' worldviews, learning styles, knowledge organization strategies, value systems, and social structures from the endogenous knowledge point of view of the holder. The concept of endogenous development, education, and research, as well as the selection of the phrase "endogenous sciences" as the key to its work, are the results of these experiences and discoveries. Although this volume expands on these observations, we are pleased to

observe that several significant projects and programmes carry out comparable tasks.

Culture and Endogenous Science Concepts

The following are the focus of the Culture and Endogenous Science areas:

- ✓ Physical and spiritual are intertwined
- ✓ Holistic, communal, and contextual
- ✓ Inclusive, cooperative, and peaceful
- ✓ Focused on the land and natural laws
- ✓ Respectful and reverent for all life
- ✓ Reciprocity and interdependence
- ✓ Balance and wholeness, inner and outer harmony
- ✓ Nourishing the spirit of learning
- ✓ Sustainable ways of being

Mixed Methods

The debate on whether qualitative or quantitative research is the best method for conducting studies has been going on for a while. The idea that neither the quantitative nor the qualitative approach adequately captures occurrences in their completeness and that combining the two approaches yields a better picture has been gaining traction.

Using both quantitative and qualitative research methods in a single study or combining the two methodologies to pursue a research agenda in order to gain knowledge about a specific

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issue is known as a mixed methods approach. To characterize the experiences of students in a practical science class, we might carry out quantitative research. To investigate similar experiences, we might also carry out qualitative research. Multiple investigations using either approach would not yield the complementary realities that we gain from both (Creswell 2003).

In individual research, we can also employ mixed methods by managing data in a minimum of three different ways.

1. We can gather both qualitative and quantitative data, analyze them independently, and then present the findings collectively.

2. We might gather exploratory qualitative data and then follow it up with quantitative data.

3. We might gather both qualitative and quantitative data while incorporating one into the other. The opposite is also conceivable, even though qualitative data is frequently contained in quantitative data.

It is recommended that beginners employ the different study approaches to mixed methods until they are proficient in both approaches. For individual investigations, they might then try to employ mixed techniques. The process of integrating one strategy into another is intentional and requires caution. It is

not a matter of asking a few open-ended questions here and there, nor is it an effort to compare the results of one with another. In actuality, each method adds a layer of information that the other cannot. As a result, mixed methods study findings are more complementary than confirmatory.

Historical Research

Historical research is considered a type of research because of its unique characteristics. This kind of study aims to identify and clarify historical occurrences. Explaining the past to comprehend the present and even forecast the future is the ultimate objective of historical research. Historical research aids in learning from past mistakes and achievements, as well as correcting past misconceptions.

Another type of research that is frequently categorized as qualitative research is historical research. This is because many historical studies use a qualitative methodology. Depending on the nature of the historical events under study, quantitative methods can also be used for data collection and analysis. Therefore, rather than seeing historical research solely as a qualitative technique, it is fairer to consider it as a type of study.

Finding evidence from the past to address a knowledge gap is the basic procedure of historical research. Finding accurate information is therefore the primary problem in historical study. There are numerous reasons why this is difficult. First of

all, information on historical events is hard to come by. Second, historical information sources frequently decay to the point where the information is compromised. If the data comes from living people, there is a chance that they will either forget some of the information or change it as their experiences change.

Sources of historical data and their evaluation

It is crucial to ascertain how people obtain information. Older people are superior sources of oral information of historical significance. Any comment that someone makes verbally is considered an oral source. Did the people know about the incident, or were they there when it happened? If they were informed about it, who told them, when, and why? Responses to these questions may reveal whether the data was massaged or distorted, exaggerated or filtered. Songs, tales, proverbs, and other things passed down from one generation to the next can also be considered oral sources.

Records and documents are printed or written sources of data. Records are linked to information in numerical form, whereas documents are linked to information expressed in language (Linda 2007). This distinction is neither essential nor significant. Additionally, there are electronic records and document storage options that have evolved and improved over time. It is now feasible to maintain live records of historical events, thanks to video recording equipment. Words are significantly more accurate and provide more thorough accounts of

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occurrences, even though two-dimensional movies may be better at capturing reality. Depending on the filming angle, images and videos might give skewed perspectives. They can also be interpreted in a variety of ways. As long as the information source remains operational, the internet has evolved into an almost endless store of records. It does not seem to be much of a shift in the quality of content posted online over time. Naturally, viruses can target and corrupt documents or records at their source. Historical records and documents can be located in archives, libraries, or with people and organizations.

Information that has been documented may not always be correct. Finding out who wrote the text and why is crucial. The wording employed in the document may not accurately convey the information, even though the person who made it may have misrepresented the occurrence. Furthermore, we might use a different cultural context, which could lead to an incorrect understanding of the material. Those who took part in or saw the event being described prepared primary sources. Documents created from other people's recollections of the incident are known as secondary sources. The individual who created the record or document did not participate in or see the event firsthand. These sources of information have a flaw because the witness might not have accurately recorded or portrayed the incident. Additionally, it's possible that the

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recipient misrepresented the information or did not fully understand it.

Relics are items or materials that have historical value. Their physical attributes, such as size, shape, texture, and material, can reveal historical details. Details about these artefacts can shed light on historical practices and actions as well as the ideals and beliefs that underpinned them.

One important method of analyzing historical data is content analysis. Depending on the type of data and the research issue being addressed, this can be done either qualitatively or statistically. Documents and records may be categorized and coded. Relics must be measured, weighed, observed, and reported. An interpretive technique, in which a document is read or inspected and interpreted without coding, is another option.

The researcher must explain the authenticity of the data source. To put it another way, the researcher needs to be certain that the document is authentic and meets the deadline. We must perform an internal critique, which involves checking the accuracy of the data source's content, after the external criticism is proven acceptable. Examining the source's content for accuracy is known as internal critique. In the same way that individuals take anything in print or that appears in the media

to be true, some people neglect to conduct internal criticism of papers and assume the entire material to be accurate.

Steps in historical research

1. Determine the subject or goal of a historical research problem.
2. Determine the evidence's sources.
3. Gather the evidence's sources.
4. Assess the sources and draw conclusions from them.
5. Provide a summary of the evidence.
6. Explain the evidence and demonstrate how it addresses the research question.
7. Make recommendations and draw conclusions.

Needs Assessment:

Identifying and prioritizing a person's, organization's, or community's problems is the goal of needs assessment. Although requirements assessment can be carried out in a variety of ways, the research technique has been applied so widely that needs assessment is typically categorized as research. Another way to think of needs assessment is as a pre-test for a community trial, where needs assessment is used to create baseline data. Quantitative and qualitative methodologies are frequently used in needs assessment. Surveys, focus groups, observations, recordings, and documentation would all be part of it regularly. Prioritizing and choosing issues to address in a way that would maximize

benefits and be acceptable to community members is the ultimate goal of a needs assessment process. The outcomes of the needs assessment guarantee that choices are supported by solid logic.

Ogar (2013) indicated that needs assessment is based on the idea that there are conflicting requirements and that prioritization is necessary because it is practically impossible to meet every demand at once. Therefore, we must consider other requirements that compete with health when assessing health needs. Healthy recreation, for instance, is frequently at the bottom of people's priority lists despite its crucial role in health, energy, and pleasure, particularly among Ghanaians and possibly Africans in general (Ogar 2013). Conversely, unhealthy recreational activities are widespread in our society and include things like watching TV, using recreational drugs, and having unprotected sex.

Steps in conducting needs assessment

- Describe the needs assessment's objective.
- Describe the goals of the needs assessment or the questions that need to be answered.
- Create tools for gathering data.
- Gather and evaluate data.
- Inform the community about the findings.
- Engage community members in setting priorities.

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CHAPTER TWO
CULTURE AND ENDOGENOUS RESEARCH: PUTTING THINGS TOGETHER

Introduction

This section of the book addresses the structure and presentation of student research in chapter one of the cultural and endogenous research. Many thesis researchers adhere to a variety of patterns. It is crucial to understand the typical elements of a thesis so that you may decide how to best convey your own. The fundamentals of a strong presentation, which are essential to maximizing the likelihood that your work will be comprehended and accepted, are shared by all theseses. Presentation is a crucial part of putting your thesis argument forward. Language usage, writing style, and text formatting will be discussed. A summary of the material that precedes the main body of the thesis is provided. Other criteria are included for your reference. The section ends with a discussion on research ethics. Its objective is to increase the reader's awareness of how crucial it is to do research with a high standard of ethics.

The Abstract

A concise, self-contained synopsis of a lengthy academic work, like a research paper or thesis, that gives readers a general idea of the full material is called an abstract. Its main goals are to

inform readers who might not read the entire work of important results and to assist readers in determining whether the entire work is pertinent to their requirements. The abstract is not part of chapter one (1). An abstract should contain the following:

- ✓ The abstract should be as brief as possible and should be less than a page.
- ✓ Summary of the problem
- ✓ Objective(s)
- ✓ Methodology used
- ✓ The key findings
- ✓ Conclusion
- ✓ Recommendations

Chapter One (1) of the Thesis Process Outline

- ✓ Introduction
- ✓ Background
- ✓ Explanation of the problem under investigation globally
- ✓ Explanation of the problem under investigation in Africa
- ✓ Explanation of the problem under investigation in Ghana
- ✓ Explanation of the problem under investigation in the community under study
- ✓ Back them with examples

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- ✓ Statement of the Problem
- ✓ Purpose of the Study
- ✓ Research Questions
- ✓ Research Objectives/Hypotheses
- ✓ Significance of the Study
- ✓ Delimitation of the Study
- ✓ Limitations of the Study

The Introduction

The introduction section of a thesis is essential because it serves as a road map and foundation, establishes the context, motivates the research by pointing out gaps, clearly states the research problem, questions, and objectives, explains its importance and contribution, and provides the reader with an outline of the thesis's overall structure. It serves as the initial indication of the worth of your work and persuades the examiner of the significance, uniqueness, and goal of the sttudy.

The Background

The background in Chapter One of a thesis is important because it establishes the context for your entire research, highlights knowledge gaps, establishes the significance of your topic, and explains why your study is necessary and important for the academic field. It also directs the reader from general ideas to your particular research problem. It provides a logical basis for your research questions and objectives by addressing the questions "What's known?" and "What's missing?"

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Statement of the Problem

The problem statement is revealed from the background when writing culture and endogenous research. The explanation of the conditions that lead to the research problem should be more straightforward. Once more, how the problem statement is written depends on the problem's type and subject matter. In the end, the problem statement aims to pinpoint a knowledge gap that has to be addressed. It should be brief when stating the problem. It should give the appearance of a lack of knowledge. Always use a question mark to wrap up the problem statement.

Purpose of the Study

The study's goal is to explain that the current investigation intends to close the gap mentioned in the problem description. It serves as the final assertion of the problem statement. If the former is true, students should not repeat the study's goal under the problem statement and then under the study's objective. It is inappropriate for certain students to state the study's aim beneath the study's background. One sentence may be sufficient for student research. If several concerns are being covered in the study, it might take more than one sentence to convey them adequately . Clearly describe the study's goal for the sake of endogenous and cultural research. The study's goal is to respond to the research question. Make sure the study's goal and the research question align by comparing them.

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Research Questions/Research Objectives/Research Hypotheses

The problem of the study is reformulated in a more accurate and evaluated way to help focus the research process. Formulating hypotheses, stating aims, or framing inquiries are ways to accomplish this.

Properly formulated research questions are crucial for directing the study process. Specific attributes determine the qualities of research questions. A research question does not necessitate a straightforward response. To answer the question, "How many students are in the class?" for example, the number of pupils present must be counted. Once more, the question "Who scored the first goal in the match?" is too straightforward to be a research topic. A study question should also, to the greatest extent feasible, not need a yes/no response. The question "Is there a gender difference in cultural and endogenous families in developing teenagers?" seems reasonable, and you can find several study publications that ask it.

However, the question "Is there a gender difference in cultural and endogenous families in developing teenagers?" might be more pertinent. "How does the development of teenagers differ between cultural and endogenous families?" Some would argue that these kinds of inquiries assume a difference. This kind of assumption isn't always incorrect. Indeed, there must be a good cause to think that a difference might exist before

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starting a study to explore for differences; otherwise, the study may not be justified. None of the differences, however, is a type of difference. A research question should not be complicated or ambiguous; it should be clear. According to (Orga 2013, Millar et'al 2018) four basic levels, which correspond to four types of research difficulties, have been used for simplicity in grouping research questions:

Level I: Inquiries mostly requiring a description of what is happening or what exists. Single variables or parallel (similar) variables are typically the focus. The main objective of this stage of research is to make the concepts visible.

Level II: The main goal of the questions is to describe the connection, difference, or relationship between variables without mentioning causality or prediction. It is a more advanced kind of description.

Level III: Inquiries aim to uncover early causal links between variables. They aim to forecast shifts in one variable based on shifts in other variables.

Level IV: Inquiries aim to prove that one variable causes another. This is accomplished by experimentation or intervention.

A study's objectives provides the issues. The study will, for example, determine whether there are gender differences in cultural and endogenous families in developing teenagers or how different teenage boys and girls in cultural and endogenous families are. Though hypotheses are more prevalent in quantitative research, research questions and objectives are utilized in both types of studies. The solution to a research problem or the answer to the research question is predicted by a hypothesis. A research hypothesis is a forecast that is supported by logic or facts, not a wild assumption.

The following must be noted:

i. Research challenges might be expressed as aims, hypotheses, or questions.
ii. Research questions should always be asked first, followed by the appropriate aim or hypothesis.
iii. To make sure that the research topic is being addressed, consult it frequently.
iv. Don't ask too many questions in a single study.
v. Research hypotheses must be supported by evidence and may need to be defended in the literature review, which is a requirement for postgraduate candidates.
vi. Research hypotheses are typically guided.
vii. If a directional research hypothesis is not supported, state a non-directional one.
viii. If a directional research hypothesis is not supported, state a non-directional one. Only when a null hypothesis is expected to be true (that is, when there

is a basis for it, we expect to find no difference, link, association, etc.) should it be stated as a research hypothesis.

The issue of how many research questions, objectives, or hypotheses a study should include has frequently been a source of debate, particularly among students. "It depends" is the most direct response to this query. A study may have one or more than one question. Various factors, including the problem's nature, the planned application of the findings, and the availability of resources and expertise, will determine how many research questions are asked. The number of pages or words required for an accepted thesis or dissertation is often specified by academic institutions. In cultural and endogenous studies, it is recommended that students choose situations that do not necessitate many research queries. A study's worth is independent of its amount of work.

Significance of the Study/Relevance/Justification of the study

The section explains the significance of the study to society, as well as the academic and professional communities. Information is the product of research, and the researcher must demonstrate that this information is valuable to the academic community or to society. This is an extremely important element, particularly if the researcher is looking for funds to carry out the study. The majority of funding organizations won't invest in a study unless they are certain that the findings will

greatly enhance life or deepen our understanding of occurrences. The importance of applied research is not implausible.

Planning and decision-making are two other areas where descriptive research is helpful. A little creativity is needed to demonstrate the value of the results of basic or pure research, which often broaden our knowledge base. Sstudents frequently make unwarranted claims that the findings may not support. “Claims like these show that pupils are not familiar with the research process”.

Note the following:

1. Explain how the study's findings might affect the individual, the academic community, practitioners, policymakers, society, community, the country, and the government, among other things.

2. Describe the possible uses for the study's findings. Do not list a lot of unclear advantages. One strong advantage can be sufficient. A highly beneficial study is sometimes dubious or suspicious.

Delimitation of the Study

Delimitation in research is about establishing limits. Boundaries can be established based on population, variables or factors, their definition and measurement, measurement instruments,

and data processing techniques. Teens in school may be the only participants in a study, and teens who are not enrolled in school may not be able to use the findings. The percentage body fat may be the only way to determine the risk of cardiovascular disease, and the bioelectrical impedance approach may be the only method available. Both the percentage of body fat and the risk of cardiovascular disease can be calculated in a variety of ways. Multiple objects or just one item can be used to measure a building structure. Many different tools are available for data analysis, each having advantages and disadvantages.

Note the following:

- Consider the demographic that the study's findings will affect.
- Define the boundaries for the variables.
- Establish limits for measurements based on the kind of tool being used.
- Define the parameters of the analysis tool.

Limitations of the Study

Students of postgraduate studies frequently list certain items as study restrictions, although not all are limitations. In cultural and endogenous research, limitation serves as a unique purpose. A limitation is anything that has the potential to compromise the validity of the study's findings. Research limits are not always the challenges one faces during the research

process. Therefore, limitation refers to all the elements that influence the study's internal and external validity. If the initial goal was to generalize, limitation suggests that either the measurement was not done correctly (internal validity) or that the results of the sample would not apply to the entire population (external validity).

The following are highly potential sources of research limitation

- ✓ They relate to the kind of research that is being carried out. For instance, quantitative research sometimes turns human experience into a numerical value, which makes it appear superficial and unreal. Extreme examples are often seen as errors. Qualitative research, however, is often emotive and limited.
- ✓ Those that are part and parcel of the research design. A researcher must, for instance, choose the design that best fits the study's objectives. Should this not be feasible for any reason, selecting a different design turns into a flaw that needs to be disclosed. One drawback, for instance, is that there is less confidence that changes in the dependent variable are attributable to the experimental treatment when an experiment is conducted without a control group because one cannot generate one.
- ✓ Those connected to the instrument in use. It should be noted that using a less-than-ideal alternative

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measurement equipment may have an impact on the quality of the results. Human weight, for example, can be directly assessed using a variety of instruments to determine cardiovascular risk. Additionally, internal validity is weakened by instruments with low or marginal validity or reliability.

- ✓ Those that originate from the study's topic. For example, research subjects are frequently reluctant to divulge precise information while examining delicate subjects.
- ✓ Those connected to the selected sample. A sample that is too small, for instance, may yield results that are not totally accurate. Another crucial factor is the sample selection procedure. It is frequently not possible to generalize the findings of studies that use volunteers or convenience samples.
- ✓ Those who are connected to the researcher. For instance, the primary cause of this constraint is researcher prejudice. Results that are mostly the consequence of bias may be produced by a researcher who has a vested interest in or disinterest in a study problem. For instance, results from studies on a drug's effectiveness that are sponsored by pharmaceutical companies should be interpreted cautiously.

Definition of Terms

The purpose of this section is to define and clarify operational words and ideas. Listing many words and concepts together with their definitions from everyday usage is a mistake many postgraduate students make. It is necessary to define terms that are likely to be misinterpreted or misconstrued due to their many usages. Terms may not always be clear from the context in which they are employed. It is often necessary to define a term used in local cultural and endogenous slang or technical jargon. For instance, the term "narrow" should be defined when examining how students behave in residence halls. When a student is "forced" to leave their room for a roommate to host or amuse a guest, the phrase describes the circumstance.

The following must be noted

Simply define special phrases. Make sure that the research does not contain an excessive number of special terms. If there are no terms that need to be defined, do not force them.

List of Acronyms

Several acronyms or abbreviations may be used in a given research topic. Concepts are often written in full the first time they appear, with their abbreviation enclosed in parentheses. The acronym or abbreviation is then the sole thing used. Acronyms are real words that are abbreviations. These acronyms should be mentioned with their complete definitions

if a study contains multiple of them. After that, the acronyms are used throughout the entire piece, including when they first occur in the body of the work. For the study's variables, acronyms may also be made, particularly if they are lengthy and/or numerous. In diagrams, figures, and tables, this is especially useful.

Note the following:

If there are many acronyms, include a list of them. If there are many variables, come up with acronyms for them. Typically, acronyms are capitalized. Keep in mind that a statement becomes less readable when it contains many acronyms.

Common Ethical Issues in Culture and Endogenous Research

The foundation of knowledge is a crucial component of advancement in research. In general, ethics refers to the body of written and unwritten standards that regulate our expectations for both our own and other people's behaviour. A fundamental component of research and the cornerstone of research design is research ethics. The collection of moral principles known as research ethics regulates the conduct of scientific and other types of research at academic institutions such as universities, as well as its dissemination. Most people associate research ethics with problems that occur when using human or animal subjects in studies. There are broader concerns regarding norms of conduct, even if these are undoubtedly important aspects of research ethics.

The importance of ethics in research cannot be overemphasized,. Some of them include: They advance the goals of research, including knowledge expansion. They uphold the principles of justice and respect for one another that are necessary for teamwork. Because scientific research relies on cooperation between researchers and groups, this is crucial. They imply that researchers are answerable for their deeds. Many researchers receive funding from the government, and rules about misconduct, conflicts of interest, and human or animal research are required to ensure that funds are used properly. Ethics upholds moral and societal ideals like the prohibition of harming others.

Data analysis

The use of appropriate statistics for data analysis and acceptance of the results of the study are two ethical dilemmas at the data analysis stage. When researchers have the chance to seek qualified assistance in areas where they lack sufficient experience, it still raises an ethical dilemma, even though the use of inappropriate data analysis tools is a concern for incompetence. Researchers need to ensure they ask for assistance if they are unfamiliar with how to apply a specific statistical approach. This carelessness is a moral dilemma. Some students are especially prone to employing wildly inappropriate technologies when doing data analysis. Falsifying and fabricating data is indeed misconduct.

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Authorship

Everyone agrees that an author should have contributed significantly to the intellectual content, including conceiving and designing the study as well as gathering, evaluating, and interpreting the data. Additionally, the author should assume public accountability for the work and verify that the manuscript reflects legitimate effort. Last but not least, an author typically contributes to the preparation of manuscript, revision, and submission approval. Data collection, language and grammar correction, and other mundane tasks by themselves are not worthy of authorship.

Ethical approval and study design

A study procedure should be created and followed in order to do this. All contributors and collaborators must carefully agree to it, and the specific responsibilities of each team member, including those related to authorship and publications, should be clearly defined at the outset. Instead, then only gathering facts, research should aim to address particular questions. Studies involving individuals, medical information, and anonymized human tissues must be approved by the Institutional Review Board or Ethics Committee of the relevant organizations. Possible ethical concerns about the research should be covered in the proposal. The subjects or their guardians should be informed and asked for their consent, and measures should be taken to guarantee the confidentiality of the data they submit.

Conflicts of interest

When researchers have hidden interests that could affect their decisions about what gets published, this occurs. These conflicts may arise from financial, scholarly, political, economic, or personal interests. Financial interests can include consulting, research funding, stock or share ownership, employment, travel or lecture fees, and employee support from the corporation. In biomedical research, where pharmaceutical companies support a significant portion of clinical trials, this problem is particularly relevant. The researchers must work harder to make sure that their conflicts of interest don't affect the research's methodology or results. If in doubt, seeking advice from an ethics committee or an independent researcher would be beneficial. These conflicts of interest should be disclosed to editors before publication, and readers will assess the reliability of the research findings on their own.

Plagiarism

When two or more articles share the same hypothesis, data, discussion points, or conclusions without complete cross-referencing, this is known as redundant publication (Jenn 2016). A prior abstract published during meeting proceedings does not, however, bar a subsequent submission for publication; nonetheless, complete disclosure must be provided at the time of submission. Another name for this is self-plagiarism. Researchers are under tremendous pressure to publish in the increasingly competitive climate where publications have a

significant impact on grants, promotions, and appointments. A rising number of researchers are attempting to enhance their resumes using dishonest tactics. However, plagiarism includes everything from the uncited use of other people's published and unpublished ideas in research grant applications to submitting a whole article under the pseudonym of "new" authorship, sometimes in a different language (Jenn 2016). It is crucial to cite all information sources, and consent must be obtained before using a significant portion of someone else's written or visual works.

Language

Only a small number of the numerous linguistic considerations that must be made in research writing are covered here. It should be noted that concepts are conveyed using fewer words feasible. In reality, numbers should be utilized to record information when they are available. Words and subjective expressions should be avoided because quantitative research is meant to be objective. Adjectives, adverbs, and expressive language should therefore be avoided. This is because these terms will inevitably communicate relative meanings, leading to a variety of interpretations. For instance, it does not signify much to remark that the class performed very well on the test when 90% of the class received an 80% or better. 50% passing the test can be considered really good in another class or school.

Idioms, similes, metaphors, proverbs, and other figurative terms should not be used in quantitative research writing unless they are directly related to the topic of the study. These are emotive or subjective expressions.

Voice

It was once believed that the passive voice should be used in quantitative research writing to make it objective. However, writing that uses the passive voice can be quite awkward and challenging to read. It became common practice to use the active voice "we" to minimize the use of passive voice, despite the ridiculousness of single authors doing so as well. However, current practice dictates that the first-person singular pronoun (I) should be used by a single author and the first-person plural pronoun (we) by numerous authors when using the active voice. Some academics still favour the passive voice, nevertheless.

Sentence/Paragraph

Long sentences should be avoided, even though they add interest to reading. Complex sentences should be avoided in favour of simple and compound ones. In quantitative research, flowery language is inappropriate. While punctuation and grammar are crucial in research, creative writing is not preferred. Unless technical terms that must be used, "big" words should be avoided. To help with comprehension, some terms might need to be clarified or defined. A researcher

should think about communicating concepts as simply as possible rather than experimenting with language. There are several ways to identify paragraphs, including numbering, block, and indentation. One approach is suggested by most universities, whereas others do not. Being consistent or adhering to the requirements is crucial. If block paragraphing is employed, it must be applied consistently throughout the piece. Space is used to divide paragraphs in block paragraphing. The work is double-spaced, with three or four spaces between paragraphs. This needs to be consistent throughout the task. There is no need for additional space between paragraphs if they are indented. Extremely short or extensive paragraphs should be avoided; however, paragraph lengths should be varied. For instance, single-sentence paragraphs are discouraged by the American Psychological Association (APA).

Citation

Utilizing the work of others is a common research practice. Any research report would be impossible to write without consulting the writings of other researchers. The background, problem statement, hypothesis, technique, findings discussion, and, of course, the literature review all require citations. Both direct quotes and paraphrasing can be used to cite information. Using concepts from other people's publications is known as paraphrasing. The majority of research writing uses paraphrasing to cite sources. This allows an idea to be credited to as many different authors as there are contributors. It is the

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responsibility of researchers to create original work without plagiarism. In actuality, research writing entails formulating one's own ideas and bolstering them with those of others or highlighting how they diverge from those of others. Coherent, scholarly writing cannot be produced by merely restating the thoughts of others.

The original author's words are utilized when quoting. A block quote is used for more than 40 words, while quotation marks are used for less than 40 words (American Psychological Association-APA). The length of quotations is subject to certain regulations. Naturally, discussing quoting a whole chapter may seem ridiculous. Long quotes are either unneeded or incorrect for the purpose of using quotations. If the original author's words best or intriguingly convey the topic, we may quote them. These could consist of lists, guidelines, and definitions. It is immoral to blatantly copy someone else's words without identifying them as quotations. When citing sources, there are a few things to consider. First, we must confirm that the author is the true owner of the concept we ascribe to them. Sometimes authors steal ideas from other people without giving due credit to the original creators, making the ideas appear to be their own. Students should exercise extra caution because failing to provide credit to the original authors could lead to their work being rejected or their degree being revoked if it is later discovered.

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Secondly, credit must be given to every author cited. The writing style determines how this is done. According to APA guidelines, authors must be cited in the text by their last names, with the whole citation appearing in a reference list. The page numbers of the source must be included when quoting. In other situations, they might be offered. Some people use endnotes or footnotes. Citations are denoted by numbers in both situations, and the complete citations appear either at the conclusion of the chapter or work (endnote) or under the page (footnote). Sometimes a bibliography is utilized, in which case the authors are typically not mentioned in the text. All sources from which ideas were derived are acknowledged in a broad bibliography at the end of the text.

When an author is cited "as cited by" another author, it might be challenging to properly credit sources. In essence, this ought to be avoided. The original work should be located, read, and cited by a researcher. Some individuals reference the original work without actually seeing it. This is not moral. Supervisors have occasionally requested students to present the materials they cited in their work, and when the students failed to show the materials, chaos broke out. The usage of pronouns for authors is another problem that arises. Determining an author's sex is frequently difficult. In certain situations, using he/she could get boring. "The author" is used throughout by some.

Listing

Since it is easier to refer to specific instances, numerals are frequently used when listing items (bullet points are frequently discouraged). Arabic numbers are typically used first, and if there is numbering within numbering, which should be avoided at all costs, other numbering systems are utilized. A research report's propensity to incorporate many lists, particularly in the literature review, should be avoided. These lists are frequently taken straight from publications and textbooks. Reproduced listings of this kind ought to be regarded as direct quotes. You can make a list in sentence form or vertically. Sentence listing utilizes parenthesis [(1)] to separate numbers, whereas vertical listing typically uses periods after the numbers (1.).

Numbers and Abbreviations

A few exceptions, numbers smaller than ten are typically written in words. Except when they start a phrase, words longer than nine are written in figures. There are further exceptions. When a word can be shortened, the abbreviation should be placed in parenthesis and the word should be provided in full the first time it appears. The entire work should then consist solely of the abbreviation. These acronyms may also appear as a sentence's initial word. When they are first launched, very well-known and widely accepted acronyms or abbreviations can be employed, such as UNESCO.

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CHAPTER THREE

REVIEWING LITERATURE IN CULTURE AND ENDOGENOUS RESEARCH

Introduction

The review of related literature is the exclusive focus of this chapter. There is a need to analyze other people's opinions about the topic of your investigation. Words that need to be utilized include: According to, noted that, opine that, Postulated, confirmed that, found out that, explained, view that, etc. Locate a theory, model, or conceptual framework that explains the foundations of your research or that can describe the connections between the variables in your study as best as you can. Examine critically your conceptual framework, theoretical framework, and social life philosophy. There are several uses for literature reviews in the research process, and these are covered in the two stages of literature reviews in this book.

Preliminary Literature Review

In endogenous and cultural research, identifying a topic is the first stage in identifying a research problem. At first glance, this type of subject is too broad and vague. When it comes to culture and endogenous research, in particular, what one person perceives as a problem may actually be ignorance at work because there is so much knowledge in the world. To

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ascertain what is known about that cultural area or region or the subject, and whether a solution to the issue already exists, an initial literature review is conducted. Finding a solution to an already resolved issue does not require research. Note that the same research may be done on different populations or as replications. This is done to guarantee the relative stability of what is known. Thus, the first literature review aids the researcher in writing Chapter One, the introduction. The preliminary literature review provides the study's background, problem foundation, research question formulation, variable identification and definition, hypothesis statement, delimitations, and some possible study limits. Instead of reading for literature, some students spend too much time dealing with Chapter One. The following concerns need to be covered in a comprehensive literature review:

i. Comprehensive description of the variables being examined.
ii. The research and characterization of the variables involved in the analysis and synthesis of several theories.
iii. The study's theoretical and conceptual frameworks should be presented at the end of this.
iv. The strengths and weaknesses of the variables should be measured or quantified using earlier methods.
v. analysis of empirical research that is comparable to this one.

vi. Applications of the concepts and issues that arise from them in practice.
vii. Justification of any hypothesis that may exist.

Another significant advantage of conducting a comprehensive literature review is that it facilitates the discussion of research findings and aids in the following determinations: creation of a research hypothesis, a research design, the most effective way to identify study participants, the best research instrument for gathering data, and the best techniques for data analysis.

How can we Review Literature?

A literature review is a well-written narrative that focuses on the study's issue. A common error made by students is to catalogue sequences of studies that begin with "according to." A literature review is a narrative, and narratives need to have a purposefully planned structure in order to flow. Finding information and assembling it into a narrative (drafting) are the two primary responsibilities of literature reviews.

Digging for Information

A literature review, as the name suggests, focuses on knowledge or information that has already been published in the literature. When the majority of information was stored on paper, the term "literature" was in use. Today, the idea of literature has broadened to encompass several additional information storage formats. It is crucial to remember that a

source must be a record or document that can be verified to be considered literature. In fact, information is only helpful when it can be put to use. It can be difficult to find such information.

A list of potential information sources to review

Refereed journals

Refereed journals are scholarly publications where papers undergo critical evaluation by experts in a certain field before publication. The review process determines how good the articles are. A journal's reputation as peer-reviewed does not guarantee that its material is of high quality. While some peer-reviewed publications are multidisciplinary, they are intended for certain academic or professional groups. There may be a variety of article types in journals. Studies that collect and analyze data are reported in what are known as empirical papers. A logical essay on a subject is a component of theoretical or position papers. Usually, it builds the argument from already published works. Reviews of the literature are another kind of article. They entail a synthesis of data regarding a certain problem in order to elucidate the current state of the art regarding that topic.

Magazines

Magazines are periodicals that cover a wide range of topics. While some have scholarly publications, others may concentrate on certain topics, yet are intended for a wider

audience. The author and goal of a magazine frequently determine the calibre of its material.

Newsletters

Newsletters are periodicals that organizations typically publish mainly for their members, but they can also be used to market the organization to outsiders. Depending once more on the topic, the author, and the article's goal, such documents may include useful information.

Newspapers

These typically feature news, opinions, and other pieces written by experts. Even if there is a lot of information in newspapers, some of it could not be true. Even what seems to be news can be false. Scholars must exercise caution while reviewing articles from newspapers. However, experts in specific disciplines occasionally write articles for newspapers. Since such information is thought to come from a source of authority, it may be reliable. Pseudonyms can be used, and it might be challenging to determine who wrote anything. Students should be aware of this. For example, just because someone calls themselves as "professor" does not necessarily mean that they are professors at a university. Once more, there are persons whose first name is Doctor. Students should also note the possibility of plagiarism in newspapers.

News bulletins

News is also broadcast online, on television, and on the radio. Additionally, TV and radio may broadcast documentaries, expert interviews, and conversations that offer reliable material for examination.

Conference papers

Conference papers are an excellent source of knowledge because they are presented at professional or scientific conferences. These could exist independently or be published in conference proceedings.

Books

Books offer comprehensive knowledge about a given topic. While books typically contain secondary information, they can occasionally be a direct representation of research's findings. A book, such as the one you are reading right now, is the result of an author compiling information about a subject from a variety of sources. Most books need to be updated or dropped because they usually become out of date fairly soon. Researchers should make sure they have the most recent book editions.

Unpublished Theses/Dissertations

Student theses and dissertations that have not been published are a good source of knowledge. As long as the information is

relevant to the ongoing activity, doctoral research reports are especially full of information that can be reviewed.

Reports

Reports come from a variety of sources, including governments, ministries, organizations, and committees. Reports may be released regularly or on particular topics by the World Bank, WHO, UNESCO, parliaments, ministries, businesses, etc. These reports frequently include useful information that may be examined.

Documents

Publications such as constitutions, criminal codes, codes of ethics, operating procedures, policy statements, etc. are referred to as papers in this context. They typically include technical data that is intended to be interpreted in a specific manner. The process used to create the information determines the quality of a publication, even though articles published in reviewed journals are preferred. It should be mentioned that secondary information is present in the majority of texts. Students should therefore review primary sources of knowledge as much as possible.

Indexes

Indexes are collections of publications on particular topics. A journal's index is a list of every issue and article published in that journal over a given time period. Indexes of publications

on a specific topic are also available, such as all journals on social sciences, science, etc.

Abstracts

Abstracts are a concise synopsis of a piece of writing. They are frequently gathered into databases and made freely accessible. Some universities have compiled postgraduate theses into books and published them online. Online users can view the database for free in an electronic format.

Bibliographies/Dictionary

They are a collection of citations on particular subject matter (usually books). Annotated bibliographies have summaries of the works. Words and phrases and their definitions are compiled in dictionaries. Some are focused on particular topics, such as medical dictionaries.

Databases and Collections/Achieves

As the name suggests, a database is a compilation of works on a specific field. A compilation of articles about culture and endogenous associated fields. Education-related publications can be found in ERIC; health-related papers can be found in Medline, MedPlus, and Pubmed; and psychology-related publications can be found in Psych-lnfo. Seek out collections that are available in your field. Back copies of publications are gathered in archives. Media companies typically maintain news

and other item archives that can be searched for specific information, particularly when it's accessible online.

Internet

Using the internet to conduct research has become a common place. In fact, the majority of the resources discussed in this section can only be found online. The universal resource locator (URL) address system is used by the Internet to retrieve information. Typically, it takes the format http://www, where www stands for World Wide Web and http for hypertext transfer protocol. In addition to scanning the internet, culture and endogenous researchers can visit particular websites directly to find information. Most large websites allow users to search for specific information. Information can be found on the websites of the World Bank, UNESCO, WHO, the International Olympic Committee, ministries, universities, and others. Abstracts and occasionally complete articles can be seen for free or purchased on the websites of several periodicals.

Finding Information

Finding and retrieving the stored information is a significant challenge in the literature review process. Information is currently kept in a variety of formats, such as electronic and print. Libraries have print materials, microfilm, and microfiche documents. The internet and pen-drives, which may also be

available in libraries, are sources of electronic information. The internet is a good place to find information. These databases provide free abstract viewing, and some might even grant free full-view access to a select few papers. The majority of full-view articles require a subscription or purchase. A lot of libraries have database subscriptions.

Consult the librarian about the resources that are available. Although it's easy, searching for information from an electronic source can be just as intimidating as looking through a large library for print materials. Some libraries have produced an electronic catalogue of all of their resources. Consequently, individuals can do a subject or author search for a material and be guided to its location, whether it is for reference or loan, and if it is not available, when it would be returned, in place of the outdated card catalogue system. Articles from other libraries may be ordered through an interlibrary loan programme. This could result in a minor service fee.

How do we put the Information Together?

The orystage where the st is told is when the literature review is being written. You currently have many article summaries. Without summarizing, some people wind up with a massive stack of articles that are hard to understand. It might also be challenging to handle when some people have all or a portion of the articles on their computers. If the summaries are created on a computer, we might decide to print them out or deal with

them there, which might require launching many windows at once. To facilitate navigating between summaries, these files or parts of them can be linked on the computer. You are now prepared to begin writing. Start the narrative with a succinct introduction that explains the review's goal and provides an outline of the study's goals. Additionally, it must specify the information-gathering procedure, including databases consulted, libraries visited, etc. You can even include details on the search terms used, the number of articles retrieved, the criteria applied to determine the articles' appropriateness, the number of articles rejected, and the number reviewed. This is feasible if the information source is primarily computer-based. The bofy of the review is a network of research findings from the literature organized around its sub-themes. The following should be emphasized in the review:

Information available about the sub-theme

In general, the level of current knowledge regarding phenomena may vary by problem (more knowledge on factors that lead to poor education than factors that enhance educational achievement), subject matter and discipline, more knowledge in social science than technology. Additionally, existing information may vary by population and geographic region. The idea is that a researcher may find it very easy or very difficult to obtain information for review, depending on the previously listed circumstances.

There is a drawback to having a lot of material to review, though: the researcher might need to read a lot more to finish the review. The amount of pertinent material that must be studied will be reduced if a research topic is made more precise when there is a wealth of knowledge on the issue. On the other hand, the review should have a more general form if there is limited understanding of the topic. Take, for example, a study on the eating habits of teenagers or young adults. The review should be tailored to adolescents if there is a wealth of current information on those areas of nutrition behaviour; if not, it may encompass nutrition behaviour in other age groups.

Agreements and disagreements in the literature about issues in the sub-themes

Knowledge is not absolute and research is not a perfect science; literature reviews are crucial (Campbell, et'al 2001). Probability and some other considerations form the basis of research findings. It implies that there is very little chance that there will be agreement in the literature regarding any knowledge challenge. Because of this, significant choices are typically not made based just on the findings of one study. The review needs to point out if some research suggests one thing while others say another. For instance, despite its benefits, several research may indicate that excessive cholesterol is harmful to one's health. Even though excessive cholesterol, particularly low-density lipoprotein (LDLJ), is bad for your health, it seems that certain studies argue otherwise. The researcher must study

widely and maintain an open mind to spot contradictions in the body of knowledge.

Conclusive or non-conclusive issues about the sub-themes

Insufficient knowledge prevents research problems from having definitive answers (Carmines et'al 2016). A phenomenon may be supported by a few studies, but we cannot draw that conclusion until other investigations have confirmed its existence. This is what occurs during theory testing. A hypothesis must be sufficiently supported by multiple tests and successful results to demonstrate its strength and applicability to people's lives. A theory may only be effective in specific situations, in which case the reviewer should be sure to emphasize these circumstances. The present investigation by the researcher may either expand on the hypothesis or provide support for it.

Types of studies (qualitative or quantitative, design, etc.)

In light of the results and conclusions, it is critical to determine the methodologies employed for the research. In addition to qualitative or quantitative methods, which can be considered empirical, there are also historical summaries, sociological or political reports, theoretical pieces, etc. The various report formats contribute distinct viewpoints to the comprehension of phenomena. The reviewer should draw attention to these

problems, identify areas that require alternative viewpoints, and discuss how the current study advances those viewpoints.

Gaps and areas in the literature that need further studies

The reviewer should point out and draw attention to issues that are inconclusive or conflicting and require more research to elucidate. Other circumstances in which issues should be examined include disparate demographics, geographic regions, etc. The current study's gap or area of focus should be clearly stated.

Hypotheses

A hypothesis section is another crucial component that may be included in a literature review, particularly for PhD students. This part explains of the derivation of the hypotheses if they are mentioned in Chapter One. Indeed, a hypothesis needs to be supported by solid and rational reasoning; literally, it is referred to as an educated guess. This kind of reasoning is predicated on existing knowledge on an issue. The literature should provide a researcher with enough evidence to back up the new study's hypotheses. The premises of a hypothesis must be drawn from the body of current knowledge, and the hypothesis itself is founded on logical reasoning.

Theoretical/Conceptual Frameworks

A study may draw from pre-existing models and hypotheses. Any such model or theory needs to be included in the literature

review. These ideas and models can be included in a conceptual framework that illustrates the gaps by capturing the interactions between variables. From the conceptual framework, hypotheses are revealed. Conceptual frameworks are typically expressed diagrammatically, such as in an idea map or flow chart. These frameworks serve as the foundation for designing data collection instruments, data analysis processes, findings types, conclusions, and recommendations when they are employed.

Summary of the Literature Review

A summary or conclusions section that connects the aforementioned points to the review's sub-themes must be included in any literature review. Regarding the problem of concern, the summary should inform the reader of the current state of affairs, including any gaps, areas of inconclusiveness, contradictions, etc., and how the current study will clarify difficulties. One-sentence summaries are inadequate, but ones that are far more than a page are most likely excessive. New concepts or references should be added to the summary. As mentioned above, the discussion of the results will go over each of the concerns brought up in the literature review. It involves answering the questions: Which theories have been validated? Which gaps have been addressed? Which field of knowledge has been reinforced or challenged, etc? These must be demonstrated by the researcher. It would also be challenging

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to properly analyze the study's findings if the literature review was poorly done.

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CHAPTER FOUR

METHODOLOGY IN CULTURE AND ENDOGENOUS RESEARCH

Introduction

Students occasionally struggle to finish their thesis due to the methods portion. If this component is not done correctly, the overall project will undoubtedly have flaws that cause excessive delays or failure to finish. Students should not gather data until they have mastered the process for conducting research for cultural and endogenous studies. Additionally, briefly describe the study area profile, which should be relevant to the topic under investigation. Since the population is being sampled, it is always significant. The process by which knowledge is discovered is the subject of research methodology, and it is vital to describe the technique that is employed since it dictates the type of knowledge that can be produced.

Knowledge is produced through quantitative methods using deductive reasoning and qualitative methods using inductive reasoning (Denscombe 2013). A researcher must specify the method being employed. Regardless of the method used, methodology in culture and endogenous study considers two key factors: 1) Research Methods; 2) Research Design.

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The Design

The research question has a significant influence on the study design (Cook, et'al 2009). The primary question to address is which design is best suited for producing data that will address the research question. Research designs serve as the blueprints for knowledge production. The design chosen needs to be suitable for the issue at hand. The choice of design must be justified by the researcher, essentially stating that it is the best plan for obtaining the relevant information.

A qualitative research design is best suited for studies that are endogenous and culture-based (Denscombe, 2013). Instead of merely measuring or quantifying cultural phenomena, the method focuses on comprehending the "why" and "how" of them. It's ideal for examining intricate social relationships, attitudes, beliefs, and customs within a particular cultural setting. Because they enable in-depth investigation and comprehension of cultural subtleties and viewpoints, methods and approaches, such as ethnography, case studies, grounded theory, focus groups, and genealogical studies, are frequently the most suitable.

The Methods

Methods are the steps that must be taken to generate knowledge. Methods involve the procedures and processes used to gather data and use them to solve the research

problem, based on the design (Fowler 2014). The selection of a sample and techniques, which comes after the population under study has been identified and described, the creation of a suitable instrument for data collection, a description of the data collection procedure and its sources, and the analysis of the data to address the research problem are all examples of methods.

We advocate for a transdisciplinary approach in research on culture and endogenous development. As a result, we can employ culture and endogenous methodologies in addition to disciplinary, interdisciplinary, and cross-disciplinary research techniques. The precise goals and subjects of the research will determine which approach is best and how to mix the various approaches.

Developing the methods

Generally, the process of creating research methodologies for culture and endogenous research should follow these steps:

- Present contemporary methods relevant to culture and endogenous development of the study area.
- Modify a few existing methods to satisfy culture and endogenous development requirements.
- Create novel strategies for culture and endogenous development in collaboration with students and other partners in the study area.

Sampling Methods

Sampling methods are divided into two (2) major components. Probability Sampling and Non-probability Sampling.

Probability Sampling Methods

Probability sampling aims to investigate a subset of a population so that the results can be generalized to the entire population (Fisher et'al 2010). The key issue here is therefore representativeness or generalizability. External validity refers to how representative a sample is of its population. Sampling is therefore one of the elements that influences external validity. Random selection of some kind is used in the probability sampling approach. With this approach, every eligible person has an equal chance of choosing a sample from the whole sample space. Here are examples of probability sampling components:

Simple Random Sampling

Theoretically, the purest type of probability sampling is simple random sampling. The odds of selection are known and equal for every member of the population. Despite having the highest external validity, simple random sampling is the most challenging and, sometimes impossible to employ in social scientific research. Many students, however, like to claim that they employed basic random sampling. Simple random sampling requires the availability of a comprehensive list of all members of the target population (sampling frame).

Performing basic random sampling is so inconvenient that many individuals find it challenging, even when this list is provided. Claiming that simple random sampling was done when it was not, involves unethical behaviour. The fact that most students use convenience sampling needs to be acknowledged and stated as one of the study's weaknesses. Regardless of the sample method used, it needs to be adequately detailed.

Procedure

It is possible to employ the bowl approach for tiny populations. Each member's name or identity is written on a piece of paper, card, or other material, which is then put in a bowl. The bowl is shaken to mix the members, and then the desired number is chosen. Picking can be done from above eye level or by someone wearing a blindfold. Additionally, the computer can produce numbers that indicate which members ought to be chosen. We will assign a number between 1 and 100 to each member if we need a sample of 40 out of a target population of 100. Next, we give the computer instructions to produce 40 random numbers between 1 and 100. If we don't want to search through the list to find the numbers that are picked, we may instruct the computer to filter the numbers and remove those that aren't selected.

Systematic Random

It is possible to substitute systematic random sampling for simple random sampling (Ogar 2013). The Ninth (9th) name selection procedure is another name for it. Following the computation of the necessary sample size, each Ninth (9th) record is chosen from a list of population members. As long as there is no hidden order in the list, this sampling technique is just as effective as random sampling. Its sole benefit over the random sampling method is its ease of use. A common method for choosing a predetermined number of entries from a computer file is systematic sampling.

Steps to select a systematic random sample

1. Determine the necessary number of samples (n).
2. Assign a number between 1 and N to each population unit.
3. Use the formula k = N/n to determine the interval size k.
4. Choose an integer between 1 and k at random to be the sample's first member.
5. Next, take the first member's kth unit, followed by each subsequent kth unit.
6. Keep going until you have every member of the necessary sample size.

Stratified Random Sampling

Stratified sampling is a popular probability technique that often outperforms basic random sampling. Probability is used in basic random sampling to guarantee sample representativeness. Even though a basic random procedure has a very low possibility of producing a biased sample, bias is still possible. By using stratified sampling, significant population features are fairly represented in the sample and are not left up to chance. This lessens the sampling error that the specific circumstances might cause. A stratum is a subset of the population that is distinct from other subsets in a certain way. Strata may encompass, for example, males and girls in a student population, managers and non-managers in an employee population, athletes in a contingent, various sociology and social workers population, etc.

Stratified sampling is used for one primary purpose. Stratified sampling is used to make sure that each stratum is represented in the population in proportion to its size if there are different strata of varying sizes. It makes use of a quota or proportion. A researcher could wish to make sure that a sample of 200 social workers is proportionately composed of 60 males and 140 females, for example, if the population of social workers being studied consists of 800 females and 400 males. However, it is also feasible to use disproportionate stratified sampling, in

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which strata are represented by quota rather than proportionately.

The researcher determines the pertinent strata and their true representation in the population. It is insufficient to be able to separate a population into strata. The study variables must be significantly impacted by the factor utilized to divide the population. For instance, if one group is overrepresented in the population, there is no need to stratify the population by gender if there is no proof that males and girls achieve differently in school. After that, a sufficient number of participants are chosen at random from each stratum. A sample size that is "sufficient" allows us to have a reasonable level of confidence that the stratum accurately represents the population (Manski,2009).

Cluster Sampling

When sampling from a population spread across a large geographical area, the challenge with random sampling techniques is that, even if a comprehensive list of the population is given, it might be challenging to cover a lot of ground to reach every unit tested. Cluster or area random sampling may be used in this situation. Because the population is inherently clustered, cluster sampling may also be used. For example, there may be a concentration of social workers in a specific area of a large city. The bulk of the social workers are concentrated in these clusters while a handful scattered around

the nation exist. It's critical to distinguish between strata and clusters. Clusters are identified based on homogeneity while strata are heterogeneous.

To cluster sample, follow these guidelines

1. Assign populations to clusters, typically based on geographic borders.
2. Random assortments of samples
3. Calculate each unit in the sampled clusters.

Alternatively, for clusters that are large or small

1. Assign the population to clusters, typically along geographical lines.
2. Create an inventory of every individual in every cluster.
3. Select individuals at random from every cluster.
4. Employ equal representation or proportional sampling.

Non-Probability Sampling Methods

Until now, we have been talking about sampling techniques that provide the chance to extrapolate study results to the population from which the sample is taken. The populations from which non-probability samples are taken are not fairly represented by them. As a result, its primary application is more in culture and endogenous qualitative research, where the concept of generalization does not extend from sample to population. Remarkably, a lot of quantitative research uses non-probability sampling, which is either concealed or stated as a constraint. The results of quantitative research that use

non-probability samples are occasionally generalized, but doing so carries a significant risk (Creswell, 2014).

Convenience Sampling

Convenience or incidental sampling is the practice of selecting study participants from the community who are most accessible and easily contacted. Teachers may be given a questionnaire by the researcher when they gather for a conference for a study involving teachers, or the community may gather for a cultural festival. Students may be studied by a researcher who visits the classroom and distributes copies of the instrument to any student who is willing to complete it. Some researchers provide a few individuals with copies of an instrument so they can administer it to their "friends."

When conducting exploratory research and seeking a low-cost approximation of the truth, convenience sampling works well (Creswell 2014). The sample is chosen because it is handy for the researcher, as the name suggests. When conducting early research, this non-probability approach is frequently used to obtain a rough estimate of the findings without spending the necessary money or time in choosing a random sample.

Judgmental sampling

Convenience sampling is essentially an extension of judgmental sampling, a popular non-probability technique. The researcher uses discretion when choosing the sample. For instance, even

when there are multiple cities in the population, a researcher may choose to select the entire sample from a single "representative" city. When employing this approach, the researcher needs to have faith that the sample is accurately representative of the total population. To investigate traditional and custom values in urban regions, for instance, we could research Tamale's population with the assumption that its characteristics are common to other metropolitan locations.

Quota sampling

Quota sampling is the counterpart of non-probability of stratified sampling . Before stratified sampling, the researcher determines the strata and their proportions in the population. Convenience or judgmental sampling is then employed to choose the necessary number of participants from every stratum. Stratified sampling is different from this, as random sampling fills the strata.

Proportional quota sampling involves sampling a proportionate amount of each of the population's primary features. For example, if we know that 45% of the population is female and 55% is male, and we desire a sample size of 100, we will sample until we reach those percentages and then stop. In contrast, non-proportional quota sampling is rather less constrictive. We provide the bare minimum of sampled units we desire in each category using this method. Having numbers that correspond to the population's proportions is not important to us here.

Instead, all we want is enough to ensure that we can discuss even the smallest segments of the population. Usually employed to ensure that smaller groups are sufficiently represented in a sample, this technique is the non-probability counterpart of stratified random sampling.

Snowball sampling

In situations where the required sample attribute is uncommon or challenging to determine, this unique non-probability technique is employed. In many cases, locating responses may be either costly or very difficult. Referrals from original participants are the source of new participants in snowball sampling. Because the approach itself lessens the possibility that the sample will reflect a good cross-section of the population, it introduces bias even if it can significantly cut search costs. Finding cigarette smokers will be challenging if we wish to sample them. The researcher will find more smokers after a few have been identified. Drug and alcohol abusers, commercial sex workers, and other subjects might also need snowball sampling.

Purposive Sampling

Purposive sampling is the deliberate sampling of specific items. In a study, one may choose to use only specialists. Occasionally, one may choose to sample the most frequent (average) or severe (highest variation) examples. Decisions about purposeful sampling affect not just the choice of participants

but also the locations, occurrences, events, and data collection activities. Data may be collected in qualitative research until no new topics emerge. We refer to this as data saturation. This is not a reason to discontinue collection of data; rather, it is the researcher's responsibility to ascertain whether the data has reached saturation. Convenience sampling and purposeful sampling are not the same thing. Since purpose sampling is the most suitable technique for the study design, it is used.

Guide to purposive sampling

i. Give a thorough explanation of the population.
ii. Explain how you determined the sample size and demonstrate that it is sufficient for the research.
iii. Determine the units, components, and sample frame.
iv. Give a thorough explanation of the sample's selection process, indicating if it was the best approach and, if not, any potential validity issues.
v. Whether the research is qualitative or quantitative determines how the sampling procedure is described.

Proxy Sampling

In research, we typically choose a sample and then make direct observations about it. The nature of the study determines how this is done. However, occasionally we have to rely on others since we are unable to see particular groups directly. Among these groups are children, those with mental retardation, and patients who might not be able to communicate. Some traits, like physical traits, can be directly noticed. Again, it's possible

that kids as young as three or four years old can communicate their thoughts and emotions.

In this type of research, the dependent individuals are sampled, not the ones supplying the data. Usually, someone else must supply the information on these individuals. The key is figuring out who should give the information. Mothers, fathers, guardians or midwives should contribute information while researching infants. Information from homecare providers or institutional caregivers may be gathered while researching individuals with severe mental disabilities. They identify the baby population and take a sample from it. After that, the information is obtained by contacting the mothers or caregivers.

Instrumentation

An instrument is a device used for scientific data collection or observation (Converse, 2006). Once more, a data collection instrument must be objective and utilize numbers to express truth because quantitative observation is objective. Truth is measured objectively and is intended to be quantified scientifically or statistically. When doing quantitative research, some students disregard this rule and include a variety of details that don't make sense based on the data. A quantitative research study's conclusion must be supported by the data, which are produced by the instrument. Four distinct scales are used to evaluate truth, and it is crucial to understand these

scales before creating an instrument since the scale chosen by the instrument dictates the scores that are gathered and the manner in which they should be assessed. Researchers should be able to articulate their decisions with temerity and be completely clear on these matters.

Scales of Measurement

The three properties of the real number series: real numbers are shown on a number line, are the foundation of scales of measurement, and these are:

A hierarchy

This occurs when the values are arranged in a certain sequence, with higher numbers having greater values than lower ones. For example, 5 is greater than 1 and 76 is less than 100.

An equal interval

This is an interval in which the disparities between units on the scale are equal. For example, the difference between 701 and 702 is equivalent to the difference between 10 and 11.

Origin

The genuine origin, which is sometimes denoted by zero (0), is the point at which the feature of interest is absent. Finding 0 while measuring anything indicates that it does not exist at that precise moment. The four (4) measuring scales include: nominal, ordinal, interval, and ratio. Comprehending these

scales is essential for doing quantitative research. The scales are summarized in the following table.

Table 5 : The four (4) measuring scales

Ratio	Interval	Ordinal	Nominal
All traits are included in this scale. This scale does have a true zero point. As a result, ratios are equal; for example, the ratio of 8 to 4 is equal to the ratio of 2 to 1. All arithmetic operations on values are possible here. A ratio scale is a	An interval comprises the numbers lying between two specific given numbers. This scale possesses two of the traits. The distances between neighbouring scale values are identical in relation to the	This scale only has a hierarchy. Higher scale value items or people possess more of the attribute than lower scale value items or people. Adjacent scale values do not have equal intervals, and there is no real origin.	The most basic level of measurement, this level divides data into groupings mutually exclusive and without any inherent ranking or order. This scale lacks all three of these qualities and is technically a grouping approach rather than a

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measurement scale that includes a real zero point in addition to all the other characteristics of an interval scale.	characteristic being assessed. For instance, the difference between 39 and 40 is equal to the difference between 11 and 12. However, since zero is arbitrary and does not indicate the lack of a characteristic, we cannot claim that the difference between 80	Therefore, a value of 0 does not indicate the lack of an attribute. Scale assignment is based on the larger than, equal to, or less than properties. “Ordinal” indicates “order”. Ordinal data is quantitative data which have naturally occurring orders and the	measuring scale in the traditional sense. It focuses on people, objects, and categories that share characteristics. These are just countable, and when numbers are employed to describe qualities, they lack the quantitative values that we typically associate with numbers. One player is

	and 70 is twice as great as the difference between 10 and 20. We are able to add and subtract values here.	difference between is unknown	identified by the number 10 on their uniform, and another player is identified by the number 2. However, the totals can then be subjected to statistical processes when counting is complete.

Table 6: Examples of scales of measurement

Ratio	Interval	Ordinal	Nominal
Kelvin degrees.	Celsius degrees. The majority of	Quality of Service (First Class,	Race, Gender,

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Height, length, distance in centimetres, income in cedis, etc.	personality tests score for intelligence. Scores for academic success, etc. (A person receiving a U does not necessarily have an empty head.) Scores for attitude can be 0 or lower. Negative does not imply "less than attitude," nor does zero imply	Business Class, Economy) Grades in letters. The order in which anything is ranked: Age groups (e.g., 0–9, 10–19, 20–29) Stage of life (children, followed by attitude, teenagers, young adults, etc.) Basic, secondary, tertiary education, etc.	and Sex. Status of marriage, skin colour, nationality, and illness

	"no attitude." Education (years spent at school)		

It should be emphasized once more that the instrument used to collect the data determines the kind of scores a researcher has. Thus, the instrument used to collect the data is how the researcher calculates these ratings. A researcher never completes data collection before attempting to determine the scores obtained. After determining the right scores, researchers create a tool to gather the scores. It should be noted that while lower-level data can be converted to higher-level data, the reverse cannot be done. In other words, while interval data can be converted into either ordinal or nominal data, and ordinal data into nominal data, neither of these can be done with nominal data.

The process of developing instruments and some of their features

There are two key aspects of instruments that need to be grasped before talking about particular kinds of instruments. These are the instruments' validity and dependability. The researcher must provide proof of dependability and validity.

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The appropriateness, accuracy, and precision of measurement devices are all aspects of validity. It is a gauge of how valuable any conclusions a researcher makes, using information gathered via an instrument, are. The type of instruments determines the nature of validity. Though the details will be covered under each instrument type, this section covers validity and reliability in general. Physical measuring instruments are needed to measure physical qualities.

Conversely, a measuring device's constancy in operation is what reliability is all about (Denzin 2008). It implies that if the same group is given the tool repeatedly without any changes occurring, the results should be about the same and that any variations in scores should be the consequence of random measuring error. On the other hand, the results should be substantially the same if the same group is subjected to an instrument handled by various people.

However, many of the characteristics that are measured in research are psychological rather than physical, and it is vital to ascertain the validity and reliability of the tools used to measure psychosocial factors. Due to the diversity of characteristics, there are now two types of reliability and various types of validity.

Face validity

An instrument is said to have face validity if it appears to be measuring the intended thing. For instance, gravity makes it appear as though a weight-measuring object is measuring weight when a human stands or hangs on it. We can determine a survey's face validity if it includes questions on exercise behaviour. By examining the instrument, specialists establish its face validity.

Content validity

Content validity addresses quantity and coverage, whereas face validity addresses presentation. The primary purpose of content validity is to assess behaviour, knowledge, and skills. All of the contraceptives available in a given population should be covered by an instrument measuring contraceptive knowledge. Once more, test items must capture information at the proper learning levels, including recall, comprehension, analysis, synthesis, etc., in addition to covering the material. Item specification and analysis are used to ascertain content validity.

Construct validity

One of the most prevalent types of validity is construct validity. Instead of being a physical characteristic, a variable of interest could be a construct. In the sense that they cannot be immediately observed and measured, attitudes, perceptions,

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confidence, etc., are constructions. Only behaviours that are directly observable and associated with the concept can be used to indirectly observe and quantify them. A researcher must develop a set of things that collectively capture a construct to do so. Construct validity is to create an instrument with the fewest possible pieces while accurately capturing the construct. A theoretical stance is frequently used to judge whether a construct is valid.

An instrument must go through the instrument development process in order to be found to have construct validity. Like a weighing scale, a research instrument is a measuring device. Similar to how we don't have to build our own weighing scales, researchers should use instruments that have already been developed as much as possible. To ascertain an instrument's construct validity, researchers typically use statistical techniques like factor analysis throughout multiple stages of instrument development. Students and novice researchers can think about utilizing instruments that have already been designed. It may be possible to adapt an existing instrument to the demographic and the study's current focus. In this situation, it is necessary to make sure that it is the most effective tool for the research.

Concurrent (criterion) validity

The process of comparing a newly developed instrument to one that has previously been examined and determined to be valid

is known as concurrent validity. After administering the new and old instruments, the outcomes are compared. The new instrument's validity is determined by the degree of correlation between the two.

Predictive validity

Research is occasionally done in order to predict one variable from another. Evidence of the instrument's ability to anticipate the other variable must be present to accomplish this. We may choose to forecast one variable based on another variable or the same variable. For example, we could utilize a subject's present performance to forecast its future performance. On the other side, motor educability qualities like agility, strength, and coordination can be used to predict success in sports performance. According to the theory of predictive validity, individuals who pass a driving exam will be competent drivers. Tests, like any other tool, develop their predictive validity with time.

Reliability

If an instrument measures a certain attribute with reasonable consistency, it is considered dependable, in the sense that an instrument may be valid but not reliable, and vice versa, validity and reliability are connected. Inter-rater and intra-rater reliability are the two types of reliability. Inter-rater reliability is the consistency with which an instrument measures when it is used by multiple people on the same task, whereas intra-

rater reliability is the consistency with which an instrument measures when it is used repeatedly by one person. Certain instruments may be more similar to these types of reliability than others. Instruments are made so that neither the administrator nor the researcher can affect the measurement results. Reliability assessment techniques vary depending on the type of instrument. Test-retest, split-half, and Cronbach's alpha are among the techniques used for objective exams and questionnaires.

Instruments Types

In general, there are four types of primary data collection tools in culture and endogenous research, and these are: observation, tests and measurements, interviews, and questionnaires. The choice of whether to create a new instrument or use an existing one is crucial. An instrument's pre-existing status does not always indicate that it is acceptable. First, proof that the instrument has been validated and that acceptable indices have been reported must be shown. Second, it must be demonstrated that the population's features that were utilized to validate the instrument are comparable to those of the population under investigation. A modified version of an existing instrument needs to be revalidated. Regardless of any modifications, the researcher is required to disclose the study's real psychometrics, or validity and reliability indices.

It is difficult to develop a new instrument. When creating new instruments, the majority of students consider the goals or research issues. A demographic description is the first step in creating a new instrument. A prototype collection of items is then presented, which is based on (a) the research questions, (b) current theories about the topic, and (c) earlier study findings.

Pilot testing the instrument is the next step in the validation process. Data from a pilot study must be analyzed in the same manner as data from the main study. There are several benefits to doing this. First, it guarantees that all research questions have been sufficiently addressed. Second, the data are suitable for the suggested data analysis techniques, and third, there is no waiting period following data collection. When pilot testing the instrument, many students use a remarkably small number of individuals. Psychometric calculations are statistically unsuitable with such a value. Students are instructed not to make several copies of the instrument unless they are certain that it is adequate, and the supervisor has approved it.

Questionnaire

In research, a questionnaire is a list of questions or items that a responder must answer. A questionnaire is a tool for collecting data that can be applied to any kind of study. However, it is often used in survey research. Information about people's beliefs, attitudes, impressions, sentiments, and behaviours is

gathered using this method. Generally speaking, answers to questionnaire questions are not considered correct or incorrect. Closed-ended questionnaires typically have items with multiple choice possibilities; depending on the type of question, respondents must choose one or more options. Open-ended questions are used for in-depth data collection or exploratory research. Because of the difficulties in analyzing them, they are rarely used frequently. In fact, one of the advantages of questionnaires is how simple it is to complete them and handle the data, which is frequently gathered from large groups. This book's recommendations are not intended for open-ended surveys that require a lot of writing. When conducting qualitative research, open-ended questions work best.

Steps in developing a questionnaire

1. Define research objectives

The goal of data collection is to reveal information that will help address questions whose answers are currently unknown. This is the foundation upon which the questionnaire must be built. The opening chapter of a research project highlights the questions or aims. It is necessary to acquire information to answer these questions. Many individuals create questionnaires with minimal consideration for these inquiries, to the point where they gather information that fails to answer any or all of the research questions. To gather the necessary

data, they must either create a better instrument or engage in unethical behaviour by altering the study questions to fit the data. This stage assists the researcher in making sure that the information gathered is pertinent to the study's goals. Avoiding gathering a lot of pointless data is also beneficial.

To determine what questions to ask (content validity), use the item specification chart. Although there are three columns in the chart, the middle column is not required in this example as the discussion is solely for a questionnaire. It may be necessary for some studies to use multiple types of instruments; in this case, it must be evident which research issues each instrument is addressing. The chart should state whether more than one instrument (such as a questionnaire and an in-depth interview) will be used for each particular item. Verify that the items for every research question are adequate to address it. When creating the chart, consider the data analysis problem; consider how the answers will be compiled and examined to help address the research question. The subjects that will be tested and the number of items or points that will be assigned to each subject are both listed in a two-way chart called a Table of Specifications.

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Table 7: Item Specification Chart

Research Question/ Objective	Instrument	Items
1	Questionnaire	1, 2, 4, 6-10
2	Questionnaire	3, 5, 7
3	Interview	1-3
4	Interview	4-7

2. Selection: An item of the selection kind consists of a statement or direct inquiry followed by several options. The statement or inquiry must be succinct, straightforward, and limited to a single major topic. Avoid double-barreled questions such as "Do you enjoy jogging and walking?" Each respondent should choose one option that best describes them. The two main qualities of good alternatives are mutual exclusion (options do not overlap) and exhaustiveness (all potential options are included). The type of information requested and the analysis method of analysis will determine how many possibilities are offered. There must be at least two choices (male/female, yes/no, true/false, agree/disagree, etc.). Even though there is no upper limit, if an item has a lot of possibilities, it is possible that some of them will rarely be selected or not selected at all, unless the sample size is very large. This is especially true if the attribute under study shows little variation within the population. By choosing "Others", people might avoid choosing an option. After choosing "Others," some people might not mention anything, even if

"Please specify..." is provided. Additionally, it could be difficult to code and analyze the "please specify..." elements. With the "Other" responses, many researchers take no action. Significant "Other" possibilities could be found and incorporated into the primary options if a thorough pilot is conducted. As an additional version of the selection type, respondents may select multiple options.

Rating

Researchers occasionally want to gauge the severity of events that fall outside of two categories. This is sometimes accomplished using a rating scale that, in theory, can extend from 0 or 1 to any number, most scales stop at 7. On a scale of 0–5 or 1–7, etc., people are asked to rate specific statements.

Eg. On a scale of 1 to 7, with 7 representing exceptional patient care, rate the hospital.

Rate the level of innovation of the suggestions on a scale of 1 to 5, with 5 representing the most innovative and 0 representing the least innovative.

The Likert scale and semantic differential scales are two frequently used scales. In order to measure a construct using a Likert-type scale, a series of statements is shown, and participants indicate how much they agree with each statement by placing themselves on the scale. For example, 1) Disagree 2)

Strongly disagree 3) Indecisive 4) Concur 5) I wholeheartedly concur.

In the semantic differential scale, the construct is labeled in the semantic differential scale, and then a string of paired bipolar adjectives that characterize it comes after it. Through the marking of points between the adjective pairs, respondents express their opinions regarding the construct. The word pairings don't need to be opposites; they can be used to identify subtle changes in perspective. Please check one item in each row below to express your thoughts regarding the European Football League, for example:

	Very much	Some-what	Neither	Some-what	Very much	
Enjoyable	[ ]	[ ]	[ ]	[ ]	[ ]	Boring
Likeable	[ ]	[ ]	[ ]	[ ]	[ ]	Challenging
Noisy	[ ]	[ ]	[ ]	[ ]	[ ]	Fascinating

Ranking

Respondents are given a set of comparable things to rate in the order of their choice for significance or magnitude. How the

information is ranked is determined by its nature. It is typically difficult for people to rank their preferences beyond a small number of objects. Probably the most accurate rankings are the first three. When the number of items is high, some researchers only ask for the first three options. The terms "most preferred" and "least preferred" may also be used by researchers. Researchers need to use caution when requesting ranks from a primarily illiterate group.

When designing the questionnaire items for culture and endogenous study, take into account the following.

i. A tendency to answer questions without reading them since previous questions have similar forms and answers; try to vary your questions to avoid response sets. Some folks might just agree with the remaining items after reading and agreeing with the first few. To prevent this, some questions should be written for responders to read . To determine whether two items would generate the same response, the identical item may occasionally be framed differently and positioned widely apart.
ii. Vertical arrangement of options facilitates data entry and choice marking. It may require a lot of room, but the space is well worth it. If the selections are short, the page could be split into two columns to accommodate more things.

iii. Toward the end, include demographic information and delicate or challenging questions.

iv. Make sure the font size is large enough for easy reading. People may find the questionnaire difficult to read and may not finish it if the font size is made extremely small to conserve space.

Instructions to respondents

Respondents should receive explicit instructions on how to complete the questions and mark their responses. Instructions must be given for each part if there are several that call for distinct response patterns. Giving respondents instructions on how to return the questionnaire to the administrator is another important piece of information. Depending on the type of questionnaire, there are various ways to return the completed form. The instructions should ask the respondent to be as candid as possible, but politely rather than overtly. It is necessary to bring up the subject of social desirability. When people answer questionnaire to make themselves seem pleasant, social desirability results. Frequently, it is an unintentional untruth. Even though they are terrified that Ghana will lose a football match against Brazil, many individuals would still pick Ghana to win. They say this to avoid being viewed as socially and culturally undesirable or unpatriotic. Remind the participants that the study is anonymous and that the ideal response is to express their genuine beliefs or emotions.

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Ending

You might want to include a small thank-you note at the conclusion of the survey. Remind respondents of the need to address all questions. The necessity of returning the questionnaire using the specified method must also be reminded to the respondents.

A cover letter is a crucial component of a questionnaire because it greatly influences respondents' decisions to either answer or disregard it. A cover letter should address the following topics.

- ✓ The researcher must give a brief introduction that includes enough details for anyone to be able to confirm their identity. Typically, the researcher would give the name, address, phone number, and organization. With their principal supervisor's consent, students should state that they are students and provide the supervisor's name and phone number. This lends legitimacy to the procedure.

- ✓ The purpose of data collection and the motivation for the study should be made explicit by the researchers. Students should state that conducting research for which they are gathering data is one of the criteria for graduation. The reasons and methods with which the participants were chosen for the study should be explained to the

respondents. Respondents should be informed and precautions should be taken to preserve anonymity if the survey is to be anonymous.

- ✓ Estimate the time required to complete the questionnaire and let prospective respondents know how long it will take. This is significant because individuals are unlikely to return to a questionnaire they started but were unable to complete in one sitting. The respondent can better schedule time for the questionnaire by knowing how long it might take.

- ✓ It should be made apparent to respondents what advantages they stand to gain from answering the questionnaire, whether those advantages are direct or indirect. For respondents, some people offer token rewards like pens, soft beverages, etc. The knowledge generated could be used to address social issues, which would be an example of an indirect benefit. For example, policies, programmes, and services that could help lower maternal mortality or adolescent pregnancy could be planned using the study's findings. There should be no exaggerated statements stated here, as this could turn off some people. Details regarding the usage and confidentiality of the responses should be included,

particularly if the raw data will be made accessible to other users.

Pre-test Questionnaire

Although pre-testing and pilot testing are sometimes used interchangeably, there are important distinctions. To ensure an instrument is suitable for the study, pre-testing, often known as a trial run, is carried out. Hammond et'al (2012) indicated that an instrument's pretesting involves several steps. The researcher may assign the first acceptable draft to several specialists (colleagues) or supervisors (in the case of a student) to review and provide feedback. These remarks should address everything technical accuracy, directions, item arrangement, etc. Comments on each item, as well as portions and the full questionnaire, should be allowed. Some individuals in the study population may go through the same procedure again. They are supposed to identify whether or not they understand the items and whether they struggle with some of them. The modest number utilized for this reason could jeopardize anonymity. Instead of asking respondents to answer the questions, the researcher can ask them to comment on how readable the items are if the study's subject matter is extremely delicate.

Observe the following as a student researcher in culture and endogenous research

- ✓ To ensure that responders can react promptly and properly, use straightforward language.
- ✓ Request for the information that is required for the study. Never let the questionnaire be lengthier than is strictly necessary.
- ✓ Begin with "easy" things. Put items for personal identification at the very end.
- ✓ Prioritize the following questions: Later questions may cause respondents to become tired or rushed.
- ✓ Provide directions on how to finish each component and indicate the solutions as needed.
- ✓ Ask one query at a time: Steer clear of "double-barrel" queries that could perplex the answer.
- ✓ Only use open-ended questions where the answers improve the survey's findings.
- ✓ Make room to elaborate: Use an open-ended question at the conclusion of the survey to allow respondents to comment on the survey or broader topic.
- ✓ To reduce the response set, change how things are framed.
- ✓ Unless absolutely required, steer clear of the "others" response option.

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Administering the Questionnaire

The fact that responders must complete the questionnaire at their own pace is a crucial feature of administering the questionnaire. In essence, a questionnaire is given to a respondent, who answers it and returns it to the researcher in a predetermined manner. Anonymity may be compromised if the questionnaire is personally delivered and picked up. You can mail or post it as well. For this reason, a return, self-addressed, post-paid envelope is provided. To employ this strategy, one must ensure an efficient postal system. Due to technological advancement, surveys are conducted online and on computers, and participants use a mouse to answer questions. This approach can eliminate the need for additional data entry because responses are entered into a data file. The researcher may occasionally use email, in which case they print the answers and enter them into a data file. Data from questionnaires is occasionally gathered from captive audiences. At one point, respondents are gathered and asked to answer the questions. Pupils are frequently employed as captive audiences.

The ability of respondents to read and mark their own responses is a fundamental prerequisite for using a questionnaire (Dillman, 2018). This isn't always the case. A survey interview is utilized when someone is illiterate. In reality, a survey interview consists of reading a questionnaire

to a respondent, who then responds, with the administrator noting their replies. This includes questionnaires that are given over the phone. The benefit is that the respondent can request clarification, although this should be avoided by carefully organizing the pieces. This raises concerns about anonymity. It should be stated that a surrogate may be the respondent in studies involving individuals who are unable to communicate effectively, such as infants. Mothers can answer a survey on their children's behalf. Once more, a study of traditional institutions, customs and cultural belief systems may include a questionnaire for chiefs, sub-chiefs and elders of a community, whereas a survey of schools may include a questionnaire for head teachers to complete. In these situations, questions should be phrased and answered to convey facts about the unit rather than the respondent's opinions about it.

Pre-contact Sample

Pre-contacting the sample is the initial step in administering the questionnaire. First, if it is an organization or a non-urban community, permission to administer the questionnaire should have been obtained, along with any other required first entry protocols. Depending on the demographic under consideration, pre-contacting individual respondents might take several forms. You can do this by phone, email, etc. Potential respondents may receive copies of the questionnaire immediately after being asked if they would be willing to participate in the study if it is delivered by hand. Additionally, a

captive audience may be pre-contacted, and those who are willing to respond stay to do so, or they may meet with the administrator at a designated time and location. There is nothing more frustrating than being called and informed that you must be questioned right now, which is why pre-contact is so important in survey interviews. Parental consent can be necessary if the population consists of minors. School authorities may also need to give their consent in the case of school children. A student may still choose not to participate in the study even if school authorities give their consent. Chiefs, sub-chiefs, and opinion leaders who have the cultural and endogenous world views of their area must also be informed earlier.

To boost the return rate, it may be required to remind responders. Once more, the type of data collection process dictates how this should be carried out. Reminders may be provided to all respondents if the procedure is anonymous, and those who have completed the questionnaire may be instructed to disregard the reminder. Receiving a reminder to complete a questionnaire you already completed makes you feel uncomfortable. If respondents are unable to finish the questionnaire, they may occasionally be asked to return it. This could encourage a few more individuals to complete the questionnaire and send it back. Finding out why some people choose not to participate in a survey is the goal of a true follow-up of non-respondents. The goal is to determine whether the

non-respondents share a trait that would compromise the study's validity. For instance, selection bias may lead to underreporting he best cultural practices in Ghana study if the majority of non-respondents are from the same cultural area. It is also conceivable for the opposite to occur. Even if no follow-up is conducted, a study should address the potential consequences of a high non-response rate.

This information relates to the handling of questionnaire data before analysis. The researcher often gathers many copies of the questionnaire. Maintaining the data increases with sample size and questionnaire length (Oga, 2013). The first crucial choice is whether or not a response is considered valid if every question has been addressed. In certain situations, this choice could be more important than in others. For example, should the entire copy be discarded if data is to be analyzed by age and a respondent fails to provide their age? To put it another way, how should missing values be handled? This is a risky situation. Some prefer to handle missing responses statistically, while others maintain that all items must have been answered for a copy to be considered genuine. Ignoring missing values can affect validity of the analysis (Gregorio 2000). In reality, it is incorrect to take no action on missing scores in rating scales that create aggregate scores. Keep in mind that the response rate may vary in items if nothing is done regarding missing scores. However, not all missing data scenarios can be handled statistically; nominal data cannot. We may be able to identify a

respondent's gender considering other responses, but this data reconstruction should be avoided if at all possible.

Before entering the data, some choices must be made. For example, copies should be deleted before data entry if failing to reply to specific items makes the case as a whole invalid. Entering data that might not be used will be a waste of time and effort. If the copies of the questionnaire have not already been numbered, they should all be serially numbered after they are prepared.

Data from questionnaires can be analyzed using a variety of statistical programmes (Guilford, et'al 2005). These consist of Excel, SAS, SPSS, Epi-info, etc. The data file would actually have been prepared before data collection if pilot research had been carried out. To lower the likelihood of errors, there are two ways to enter data. At least two people may enter the same data, or one person may enter it twice. After that, the data is cleansed. To ensure mistakes are fixed, the original copies are removed when there is a discrepancy.

The data will not be error-free even if simultaneous copies of the questionnaire are entered. By producing case summaries or frequencies, the researcher should keep refining the data. Variables, for example, need to have possible characteristics. Three qualities are not possible for a dichotomous variable. A respondent in a study of college students can't be 200 years old.

These mistakes are clear, but there may be others that are not, and if they go unnoticed, they could seriously compromise legitimacy. For instance, a male should not answer a question intended only for female respondents. Once more, a person who answers that they have never engaged in sexual activity should refrain from responding to another question that enquires about the method of contraception used during the most recent sexual encounter. To find these abnormalities and get them fixed, the researcher should perform cross-tabulations of the data.

Interview

An interview is a data-gathering technique that entails communication between the interviewer and the interviewee. Interviews are traditionally conducted in person; however, they can also be done over the phone these days. Interviews can now take place via online chats or video conferences thanks to recent developments in the internet and video communications. The primary benefit of interviews is that they enable the collection of more data, even though they may take more resources than surveys. Once more, information obtained during an interview may be more accurate because the interviewer can ask questions. However, because interviews lack anonymity, the interviewer-interviewee relationship may affect the process. Therefore, conducting interviews is a specialized talent in which the interviewer skillfully attempts to extract the "truth" from the interviewee. Babbie (1992)

indicated that, depending on the type of contact or information being sought, there are two primary categories of interviews. One-on-one or group interviews could be the type of engagement. The one-on-one could take place over the phone or in person. Focus group discussions (FGD) are one type of group interview that is typically conducted in person.

Williamson (2009) opined that Interviews can be structured or unstructured depending on the type of information being sought. Because the respondents are typically illiterate, a highly structured interview is actually a questionnaire administered with an interview. We refer to this as a survey interview. The only reason it is called an interview is that it is conducted one-on-one, and the interviewee may ask questions (Williamson 2009). A questionnaire cannot provide such information. Unstructured interviews are not governed by any particular questions and may be entirely unstructured (informal). Typically, only qualitative research uses these. Most interviews are often semi-structured, meaning that the course of the conversation is determined by a few generic questions that serve as a guide.

What are the Steps in interviewing

- **Define the Purpose**

  The research objectives dictate the purpose of the interview. The goal of a purely qualitative investigation can be to find themes or gather detailed explanatory data. In a

quantitative study, interviews may also be used to obtain additional data. Once more, in quantitative research, an interview may be conducted to get quantitative data. A mixed-methods study may include an interview.

- **Choose a Sample**

Whether the study employs a quantitative or qualitative technique will determine the sample selection question. While some of the techniques covered are more appropriate for qualitative research, the sampling section's discussion of sample size determination mostly relates to quantitative research.

Consider the following in the selection of persons for interview:

- Principal or key informants: individuals are chosen based on their skills or level of knowledge.
- The normative group, which consists of ordinary people. Typically, they make up the majority. They are sampled because the results about them will apply to the greatest number of population members.
- Extreme cases: The extreme cases differ from the normative group. When difficult situations are compared, the distinctions are typically evident. To gain a comprehensive understanding of what causes good and poor performance, we can compare the top and bottom-performing schools.

- Survey interviews, which are essentially questionnaires given in an interview format. Members frequently lack reading and writing skills. Because there is interaction, a questionnaire given over the phone is also similar to an interview.
- Focus groups and group interviews. Gathering collective perspectives is the aim of a group interview. These groups are frequently chosen based on their areas of interest.

Interview Design Format

The type of research challenge and methodology being employed determines the format of an interview. The format may be unstructured, semi-structured, or structured. As previously said, a fully structured interview is actually a survey interview. A semi-structured interview consists of both follow-up questions that rely on interviewees' responses and specific questions to which answers are sought. The nature of unstructured interviews is informal. They don't start from a specific perspective. Although it includes important topics that must be covered in the interview, a general interview schedule may be employed. There might not be a schedule for an informal interview. It is frequently employed in participant observation, where respondents are not informed that they are being interviewed. The format being employed determines the content of an interview schedule or guide. Specific questions would be asked during a structured interview. A semi-

structured interview schedule would include targeted questions and remarks to guide the interviewer's inquiry. There might not be any questions in an informal, unstructured interview.

Select and Train Interviewers

Interviewing is a skilled profession, and skilled jobs demand training, as you should have realized by now. Anyone who intends to conduct an interview needs to receive training. Before conducting their first interview, an experienced researcher who has never conducted one must receive training. Nobody should presume that someone knows how to do interviews just because they have extensive degrees, or are skilled researchers, or are prolific writers and publishers. The type and format being employed determine the degree of complexity in interviewing techniques. Interviews can be unstructured, semi-structured, or structured, depending on their level of complexity. Once more, one-on-one interviews are simpler than group interviews. In a similar vein, the dynamics of in-person interviews differ from those of phone interviews. The interviewer's and the interviewee's age, sex or gender, ethnicity and/or race, educational background, culture, language, and socioeconomic status are other aspects that impact the procedure.

Interviewing skills

Pre-interviewing, interviewing, and post-interviewing are the three categories of critical interviewing skills.

Pre-interviewing session

In the pre-interview stage, the following must be considered. Getting acquainted with the goals of the study, the interview schedule, the recording and note-taking procedures, and also allows the procedure for community entry and arranging for interviews.

Interview session

Practice the following during the interview stage. Interview entry or re-entry, the start of the interview, take notes, recording, etc. Stay on course, inquiring and cross-checking and verifying, at the same time, manage the emotions of the interviewee.

Post-interview

Analyzing the data collected, ensuring the confidentiality of information, and ensuring the anonymity of the sources. This approach is crucial for subjects that are delicate or necessitate a thorough comprehension of individual circumstances. It is also helpful for developing new theories or improving existing ones.

Pre-test

To put it simply, pre-testing entails trying the interviewing process to ensure it will be successful. Before the actual data

gathering, pre-testing should assist in identifying any problems. If more than one person conducts the interview, they must review the notes to make sure the procedures are as identical as possible.

Conducting the Interview

Interviewing may take varying periods of time, depending on the type of study and the number of participants. The interview should ideally be finished in a single session. If a responder needs to be questioned more than once, it shouldn't be due to ineffective planning or time management; rather, it should be because the method requires returning to confirm concerns brought up by others. In qualitative research, this is typical. It could take several sessions to conduct in-depth interviews with one or a small number of participants. However, interviews should not go on for too long. An interview session lasting more than two hours is likely to encounter significant difficulties. One hour is sufficient. In-person interviews ought to be scheduled in a comfortable environment. This could be the interviewee's residence, place of employment, or any other location that is ready for the interview.

Analyses of interview Data

The type of research will determine how interview data is managed. Structured interview data are typically treated numerically, just as questionnaire data. The structured elements are treated similarly to questionnaire data if they are semi-structured. Unstructured interview data is processed in

accordance with the quantity of interviews conducted and the research question under investigation. Once more, it depends on whether written notes or tape recordings were made. These could need to be transcribed and coded for either quantitative or qualitative analysis. The procedure may be made easier by computer programmes. The data is presented narratively in a completely qualitative method, highlighting themes and bolstering claims. Keep in mind that data collection and analysis are frequently carried out simultaneously in these kinds of investigations. After gathering some data and attempting to make sense of it, the researcher continues to gather additional data until either enough sense has been made or no new information is forthcoming.

Observation

The physical and physiological senses are used in observation as a data collection method. Although sight is the most prevalent method of observation, hearing, touching, smelling, tasting, and feeling can all be used. Obtrusive and unobtrusive observation are both possible. In the former, the people being watched know that they are being watched. The observation obstructs the study group's regular operations. The subjects in unobtrusive observation are unaware that they are being watched. For instance, participatory observation involves the observer joining the group under observation. To watch how social structures, such as chiefs, opinion leaders, educators, nurses, physicians, or hospitals carry out their responsibilities

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or how people act, a researcher may enlist as one of them. Additionally, people can observe directly or indirectly by using audiovisual, video, or audio recordings. Whether the procedure is intrusive or not depends on the subjects' awareness of the recording.

At the same time, we can consider whether or not unobtrusive observation is ethical or is the biggest obstacle. Arguments are made both in favour of and against having the upper hand. The researcher has an ethical obligation to protect the subjects' anonymity when observation is not intrusive. It is necessary to inform people that they are being watched. People can't pretend for very long; thus, the worry that participants would behave in a way that would be socially acceptable to the observer is frequently unjustified.

For example, some study participants may first attempt to "behave well" when they are aware that they are being watched, but eventually they will return to their regular behaviour. Depending on the nature of the issue and the goal of the study, observation can be utilized as a method of gathering data in both qualitative and quantitative research. Additionally, it can be incorporated into any kind of design.

Observation Guide

Similar to interviewing, the tool to use depends on the purpose of the observation and the type of study. A planned guide might

not be necessary for a casual observation. However, observation guides might be anything from straightforward checklists to complex processes. For the purpose of researching academic learning time, an observation instrument that requires adhering to certain protocols must be developed. In direct observation, where occurrences or methods might not be verified, these skills are especially important. For instance, it is not possible to repeat something that was said or done during a class if the observer missed it. When using a recording device for indirect observation, the event or process can be continuously replayed until it is captured.

Content Analysis

Content analysis is a technique for gathering data in which information-conveying material is analyzed to find different types of messages it contains. A variety of written works, such as dirges, essays, articles, songs, customs, values, festivals, movies, images, and instructional materials, can all have their content analyzed. Finding common mistakes made by students may be aided by content analysis of their essays. It is possible to analyze the substance of songs, festivals, and films to ascertain whether the language used or the messages they convey are suitable. To ascertain whether an image is developmentally appropriate for a certain age range, its content may be examined. It is possible to identify several messages that people convey to society by analyzing the content of what they say to them during an occasion. Content

analysis is a useful method for collecting data, although it is not used as often as other methods, probably because it is time-consuming. When used properly, content analysis is a useful method for collecting data. Content analysis is particularly well-known in historical, cultural and endogenous research because it deals with documents, narratives and records.

Tools to be used

The most crucial factor in selecting a data collection tool is its appropriateness, which is determined by the instrument's validity and reliability. The appropriateness of a measurement tool must be demonstrated by the researcher. A tool's internal validity and dependability determine its suitability. The study report is weak if internal validity and reliability are not discussed.

Secondary Data

Data that has already been gathered, either as part of another study or as standard procedure, is referred to as secondary data. Large data sets on subjects like health, sports, education, agriculture, jobs, etc., may be gathered by organizations. Others may be able to use such data for their own studies. Data on a wide range of health and social topics are gathered by the Demographic and Health Studies (DHS). Clients' information may be gathered by schools, hospitals, and other organizations and made available to others for research. National census data is another source of secondary data. Although using secondary

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data is perfectly acceptable, one must exercise caution when doing so, particularly if there is little or no information regarding how the data were gathered. Finding out how the facts were gathered and whether they are trustworthy is crucial. Multiple entries and incorrect diagnoses are possible in hospital records or traditional birth attendants. Data from some educational institutions and traditional institutions might not always be reliable.

Typically, secondary data is not available in an appropriate format for every researcher. A researcher must decide what information is needed and in what quantity. This can necessitate creating a form for data extraction. A query that extracts the precise data needed must be created if the data is stored electronically. If the data is in hard copy, the researcher must manually extract what is required, either by looking through individual entries or a collected list. Serious ethical concerns could be raised by the procedure, especially in relation to anonymity and secrecy.

Records may not always be physically accessible to researchers; in these cases, record keepers may choose to extract the data for the researcher. In other situations, record keepers might prefer to conceal all identifiers on the document before providing it to the researcher. It should be mentioned, nonetheless, that group anonymity may be violated even while these precautions might shield individual identities. For

instance, a study that was previously published revealed that a significant portion of pupils at a specific school were HIV positive. Records from a hospital that provides services to that educational facility served as the basis for this study. The important thing to remember is that the publication stigmatized every student at that university, yet the information was gathered without their permission.

The following must be noted when using an instrument:

- Provide proof that the instrument has been validated when using an existing one.
- A pre-existing instrument should be validated again if some of the conditions under which it was validated differ from the present conditions.
- Explain in detail how the instrument was verified.
- Make sure the items in a new instrument are enough to answer the study questions and/or hypotheses.
- Indicate the instrument's psychometrics, including any previously published indices.
- It is recommended that students refrain from producing numerous copies of the instrument unless they are certain that it is sufficient and the supervisor has given the go-ahead.
- Examine the pilot data to ensure that the research questions are sufficiently addressed by the instrument

and that the data analysis processes are appropriate for the data.

- Stay clear of the urge to employ more than one instrument; doing so complicates data analysis.

Data Collection and Analysis

Another part of the research process that students frequently fail to report is the actual process of gathering data. The integrity of the data is compromised if this section is not reported appropriately. For example, if a researcher gathers information from 20 schools or traditional areas in a district or an area, we need to know if the researcher visited each school or traditional area or used a mail-in survey. This is especially crucial when gathering information from parents, teachers, opinion leaders, sub-chiefs, students, and members of the school administration committee.

Human Subjects Information

Under data collection, a variety of things need to be reported. We must ascertain whether the research procedure and data collection do not infringe on the rights of human subjects. Research procedures and data gathering tools must be approved by institutional review boards or ethics committees. There must be proof that the rights of the participants of study won't be infringed. A board of specialists in research and ethics reviews completed forms as part of an institutional review

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process. Before beginning data collection, researchers must obtain written consent.

A letter of introduction from the registrar or department head should be used in locations where these boards are not operational. The majority of department heads sign these letters without learning the purpose of the study. It is the responsibility of responsible individuals to ensure that students' research protocols are suitable and do not infringe upon human subjects' rights. Because the equipment is frequently not attached to the application for approval, some heads allow researchers to gather data without even looking at the instrument.

A researcher must also provide proof that they have been given authorization to gather data from a population, such as a school or district. This consent does not ensure that anyone will want to take part in the study. As a result, the researcher must obtain each participant's signed informed consent, sometimes in writing. Participants should be fully informed about any unfavourable experiences or consequences that could arise from taking part in the study. Participants should be made aware of their freedom to stop participating at any moment or to choose not to participate at all. Vulnerable groups, including children, those with little to no formal education, those with low incomes, and captive audiences, are given special attention.

The remaining steps of the data collection procedure should be explained in detail so that another researcher can follow along. The type of instrument used, the size of the population and sample, and their features would all affect specifics of the process. There are differences between an observation and an interview, presenting a questionnaire and conducting a test, and conducting a written test and conducting a physical test. The methods used to get the data must be suitable and reported precisely as they happened. If more than one instrument is employed, each instrument's data collection procedure should be explained. Any ambiguous or unbelievable claims made here could raise questions about the study as a whole.

Data Collection Checklist

- Only gather data if you are certain that it will be adequate to address the study questions.
- Only gather data when you are fully prepared to analyze it to address the research questions.
- The scale of measurement, the kind of scores, and the proper statistical methods for score analysis must all be known beforehand.
- Adhere to the most suitable method for gathering information.
- Give a clear and honest description of the procedure you will use to collect the data.

The Value of Data Analysis

Finding knowledge is the aim of research. Our ability to make decisions is aided by knowledge. In research, we gather information that needs to be transformed into knowledge. Data leads to facts, facts lead to information, and information leads to knowledge in the order from ignorance to knowledge. Transitioning from data to knowledge is not an easy task. The process of converting data into facts in research is known as data analysis. Numerous factors influence how data are analyzed to become facts. Statistics have been developed to help with data analysis in quantitative research. Regardless of the quality of the data, poor analysis will result in knowledge that is not grounded in reality.

It is often odd to see that many students and some researchers have only one or two sentences on this subject, despite the crucial role of data analysis in research. It is frequently and mainly stated that SPSS or another data management programme was utilized. Many students struggle with their study's findings because improper data analysis, which they undertake because it is unclear how to analyze the data.

It is the responsibility of researchers to ensure that their data analysis is suitable and accurate. If a researcher chooses to hire a data analyst, they should be aware that a data analyst may not be a researcher and that there are numerous ways to analyze data, including methods that are mathematically

feasible but practically absurd. For example, we can calculate the mean or average of volleyball players' jersey numbers, but since jersey numbers are identifiers rather than quantifiers, the result is worthless. While a student may receive assistance in analyzing their data, people who entrust their data set to another person for analysis risk receiving many printouts of data output that may not make much sense. The deductive technique is used mostly in quantitative research. This implies that we view the entire process before beginning. Until the data are utilized to answer each research question, the researcher must go through the data analysis procedure step-by-step. Even at the proposal stage, this needs to be done. During the pilot stage, any possible problems with data analysis should be resolved. The data analysis procedure should be described using the following steps.

Processing of Data and Management

The handling of data from collection to destruction, storage, or publication is referred to as data management. Depending on the data collection process, original data can take many different forms. Data must be compiled regardless of the technique used to gather it. This necessitates adopting a coding scheme. It is important to note that there are various approaches to data management. Although manual data management is becoming obsolete, it is still one method of data management. These days, the computer is the best option for managing data. Excel, SPSS, SAS, Epi-Info, and other data

management software programmes are available on the internet. Although they employ different nomenclature or vocabulary, these programmes essentially accomplish the same tasks. Just mentioning the use of one of these programmes is insufficient. Since the statistics can be computed using any of these programmes, it is crucial to demonstrate which statistics are used. Actually, simple descriptive statistics can be computed using scientific calculators. Users should exercise caution while using one of these programmes and reporting results in a different language. Some students report manually calculated data taken from statistical tables, despite claiming to utilize only one application (SPSS). Such students' lack of comprehension of what they are doing is evident.

Some critical decisions to be taken in the data management process by Researchers

Missing data

Missing data is a significant problem. Should the entire case be thrown out if a person doesn't answer some of the questions? There isn't a simple answer to this difficult question; everything varies. Generally speaking, a respondent may be unwilling to answer the questionnaire if they don't answer many of the questions. Such a case ought to be thrown out. But the specific missing pieces might also be useful in deciding whether or not to throw out a case. In gender research, for example, it is impossible to apply the scenario if a respondent does not specify their gender. Occasionally, it is possible to ascertain a

person's sex by looking at the pattern of responses. All items must be completed for an instrument that uses a scale to determine aggregate scores; otherwise, issues may arise. Such incomplete data cases can be preserved, and the missing data can be statistically handled using techniques to represent the missing data.

Multiple entries

Occasionally, people choose more than one option when they shouldn't. It's possible that the respondent made a mistake or that the item is unclear. It is necessary to treat duplicate items as missing data.

Contradiction

Contradictions might show up in the answers, and they are frequently encountered in complex questionnaires. For example, women shouldn't respond to inquiries intended for men, and vice versa. In a similar vein, individuals who claim to have never attended an in-service training session or to have never engaged in sexual activity should not disclose whether or not they used a condom during their most recent sexual encounter. In order to ascertain whether or not a person's responses are reliable, the researcher must review the responses. Some respondents may not thoroughly read each question on the questionnaire. The entire case should be thrown away if this occurs. Some responders might lie on one item while neglecting to lie on related ones.

Others specify

Occasionally, some of the entries have “Others specify" column. When it comes to data management, researchers tend to overlook this, either because they are overburdened with work or because relatively few people write anything there. For the "Others specify" category, you must create a data variable and enter the answers exactly. All the entries should be printed and examined later. Make meaningful coding for them if you can. Some of the answers in the "Others specify" column might be identical to those in other categories, in which case they ought to be moved to their correct locations.

Entering the data

Data is kept in the computer when a coding system has been developed. The entry point is susceptible to numerous mistakes. To guarantee that mistakes are found and fixed, there are some best practices for entering data. The data may be entered twice by one person or by multiple people. After comparing the parallel data files, any differences are fixed by consulting the originals. When entering data, people should do so when they are relaxed and have little to no anxiety. Data entry workers shouldn't stop working until they start to feel exhausted because by then, a lot of mistakes would have been made. It is completely useless to gather data, enter it incorrectly, and produce incorrect results. When inputting data, they should pace themselves by entering a certain

number and taking breaks. The type of data to be entered determines how many there are.

Cleaning the Data

No matter how meticulous one is when entering data, mistakes may still be made. These mistakes could originate from the responses or the entry process. Therefore, cleaning the data is essential. By creating frequencies for every variable. This will make it easier to spot glaring data problems. Make sure that every entry is feasible and reasonable. For example, gender only has two choices: male (1) and female (2), therefore any additional values may have been entered incorrectly. Once more, the age range should be within the study population. A 100-year-old is definitely not a teenager. As previously said, this is the moment to point out the majority of the inconsistencies and omissions. Students should be aware that it is their responsibility to make sure this cleansing is done completely if they need the help of a data analyst. It is possible that the analyst does not care or does not comprehend the facts. Certain computer programmes could assist in identifying some of the issues. For instance, SPSS can be used to find anomalous situations.

Only after the data has been thoroughly cleaned and you are more than 99% certain that there are no more errors should you proceed with the analysis. Keep in mind that you might

need to repeat the full study if you complete the data analysis and find one more error.

Data Analysis in Practice

The goal of data analysis is ensure that the conclusions of the study are supported by the data rather than the researcher's opinions or influences from previous studies. To do this, data analysis must be done in a technological and suitable way. Most studies contain background information to describe the sample. When presenting the sample, these must be examined and given in the methods chapter. In theory, the findings chapter, which discusses the research questions, shouldn't contain such material. Sex, age, educational background, ethnicity, socioeconomic level, and place of residence are demographics that are frequently included in study. Even though these details might not be directly relevant to a study, they are crucial for understanding and applying the findings, especially when contrasting them with those of previous research.

The research questions should guide the analysis of the data. Clearly describe in the proposal how each of the research questions will be addressed by the data analysis. If any hypothesesto be tested, describe how the data will be summarized and the statistical methods that will be applied. Indicate in detail how the data were analyzed to answer each research question and the results of any tested hypotheses in

the report. The researcher must use straightforward language to understand the statistics as part of the data analysis. For statistical analysis, statistical language must be translated into plain language so that readers who may not be familiar with statistical language can understand it.

These two procedures should ideally be included in every quantitative study; 1. Creating a useful and relevant summary of facts. 2. Assessing how closely sample characteristics resemble the population's characteristics from which the sample is drawn. The first is unavoidable, but occasionally the second gets overlooked. Hypothesis testing might not be required in a purely descriptive study where we are not concerned with the generalizability of data to a wider group. Let's say we want to find out how many people use a stadium for exercise or a fitness centre on a daily or weekly basis. To do this, we just gather data about everyone who uses the facility for as long as we wish. The data does not need to be subjected to hypothesis testing. We might not be interested in hypothesis testing even if we separate the data by gender.

However, if we wish to ascertain whether or not the programme is gender balanced, we can look beyond the data and employ a hypothesis to assess the importance of any gender disparities. This can be done in a variety of ways. One of the following principles could serve as the foundation for the comparison: the gender ratio in the population (equity), gender

equality, or prior experience. Data will be examined to see whether there is equal utilization if the policy or objective is to attain gender equality in the facility's use. If it is based on numerical equity, we will compare the target population's gender proportion to the facility's gender proportion. We anticipate that roughly the same percentage of people will use the facility in a community where women make up 75%. Lastly, if it is known that women exercise more than men, we would like to know if this is the case at this specific facility. Simply put, hypothesis testing confirms the results.

Research and Statistics

The type of data determines the methods used for data presentation and summarization. Thus, describing the data is the initial stage in data analysis (Tesch, 2001). The scale used to measure the variable, and the types of scores gathered in connection with each research question, are both included in the description of the data. It is crucial to remember that the type of scores determines how data should be summarized and analyzed. Inappropriate analysis is typically the outcome of ignoring this problem. Additionally, keep in mind that in quantitative research, data analysis methodologies and processes are decided upon before data collection, not later, and that the nature of scores is decided upon during the instrument construction or selection stage. Before considering how to do the analysis, some students gather data. This might or might not be effective. Students should avoid situations in

which the data they gather cannot be accurately analyzed to address the research objectives.

Quantitative apprehension, or the dread of numbers, is the reason why some people continue to avoid data analysis until they are at their wits' end. Because statistics involves mathematics, many people are terrified of it. Some people wish statistics had never been developed, or even better, that the people who developed it had never been born. Many people think the same way until I realized that numbers shouldn't be frightening and that the people who created it and are still adding more complex features don't mean any harm. Instead, those who teach statistics as if everyone should become a statistician pose a threat. An example to demonstrate the significance of statistics and how it should be taught, learned, and applied without being overly concerned with its mathematical aspects.

Let us weigh every student in the public school feeding programme and the non-public school feeding programme if we want to compare the weights of elementary school kids receiving free school feeding and those receiving no school feeding. We might need to take a sample from each category if there are a lot of schools. We might have, say, 3000 pupils in each group. After weighing each of the 3000 students on a single, enormous scale, we could weigh the remaining 3000 students. Any weight disparity between the two groups will be

immediately apparent to all of us. Sadly, weighing scales are designed for people, so we have to weigh every child, resulting in 3000 distinct weights for every group. How can we ascertain whether 3000 weights of public-school feeding programme students and 3000 weights of Non-public School Feeding programme students differ from one another?

We might wish to start by finding a single weight that represents the group as a whole. We may choose to combine all 3000 weights for each group to create a single, enormous weight, which would be equivalent to placing them all on a single scale. When comparing groups, it is usually not helpful to simply add up the numbers because the groups do not have equal numbers. Instead, we will calculate the group mean or average weight by adding the weights and dividing by the total number of students in each group. Are you aware that statistics are already being used? You have undoubtedly studied measures of central tendency and descriptive statistics.

We now need to figure out how to compare the two groups, as we are interested in doing so. We can conclude that there is no difference in the weights of pupils in public school food programmes and non-public school feeding programmes if the two averages are identical. However, it is highly improbable that the two groups' mean weights would be identical. Additionally, the groups being compared are typically not

equally represented, meaning that one group may have more members than the other.

Common Statistical Ideas used in Research

Distribution

A collection of scores from members of a sample or group of interest. A smoothed out frequency polygon is called a distribution curve. Most scores are located in the middle of a normal distribution, which is a symmetrical theoretical distribution. Its mode, median, and mean are all the same. The term "normal curve" refers to a normal distribution curve. It has the following characteristics and is funnel-shaped. Approximately 68% of the results lie within plus or minus one standard deviation, 95% fall within plus or minus two standard deviations, and 99% fall within plus or minus three standard deviations.

Skewness

This is the extent to which a distribution becomes lopsided due to the concentration of scores. More low scores are indicated by a positive skew, while more high scores are indicated by a negative skew. A skewed distribution in graph form will have its "belly" in the direction of the short "tail." The position of the long tail describes skewness. For this reason, more low scores result from a positive skew. Calculating skewness can be understood as follows: Highly skewed is greater than 1 or less

than -1; moderately skewed is between 0.5 and 1 or -0.5 and -1; somewhat symmetrical is greater than -0.5 but less than 0.5.

The Central Tendency

The statistical metric that captures the single value of the whole distribution or dataset. It seeks to give a precise account of all the data in the distribution (mean, median and mode). The descriptive summary of a data set is known as the central tendency in statistics (Schuessler, 1999). It represents the centre of the data distribution using just one number from the dataset.

The Mode

The most common score in a distribution. The distribution is bimodal if there are two of these scores. Students can be asked or observed to indicate how frequently they prefer each type of food to determine which food they love most. The most popular food is the one with the most frequency (mode). Once more, if we want to purchase running shoes for a school that will be used by a variety of students, we can measure each student's foot size. If we find that the majority of students (mode) have size 9 shoes, we will purchase more size 9 shoes than any other size.

The Median

The score is situated at the centre of a distribution. The mean of the two middle numbers is used when the number of scores

is even. It is applied to skewed ordinal or interval score distributions.

The Mean

It is the sum of numbers divided by the count, or the score of an interval score distribution. The range and standard deviation are calculated by adding all of the scores and dividing the result by the total number of scores in the distribution.

Measures of dispersion

These values show the degree of score dispersion within a distribution. As an illustration, consider the standard deviation, which measures the degree of variation or spread in a dataset by indicating the typical distance between data points and the mean.

The Range

This is the variation between a distribution's lowest and greatest scores. The lowest score on a test given in class may be 5, and the highest score could be 10 (range = 5).

The Standard Deviation

A figure that illustrates how scores are distributed above and below the mean is called the standard deviation. The majority of scores fall between 15 and 35 in a distribution with a mean of 25 and a standard deviation of 10. The confidence interval determines the precise percentage of scores that fall within this range. The standard deviation is obtained by squaring the variance.

The Percentiles

These are employed to split a score distribution into percentages so that half of the distribution's scores fall below the 50th percentile. These could be used to pinpoint the locations of particular scores. For instance, a student's test score can fall below the 70th percentile. This demonstrates relative performance.

The Quartiles

These are 25 percentile multiples. The score with 75% of the distribution below and 25% above it is known as the 3' quartile, or 75th percentile. Deciles are multiples of ten percentiles.

The Correlation

The degree of relationship between any two variables is indicated by a correlation coefficient (r). On a scale of -1 to 1, correlation can be either positive or negative. The correlation's strength is absolute, meaning it has no bearing on whether it is positive or negative. When one variable is low, the other is high 75% of the time (negative correlation), according to a coefficient of -0.75. When one variable is high, the other variable is similarly high 75% of the time (positive correlation), according to a coefficient of 0.75. There is no association when the correlation coefficient is zero or almost zero. Correlation does not show which variable is independent or dependent, in contrast to regression. Therefore, inferring causality from correlation is not suitable. To evaluate the degree of similarity between the two variables, we can compute the coefficient of

determination, which is the square of the correlation coefficient. A coefficient of determination (R) of 0.562 5 will result from our correlation of -0.75 or 0.75, indicating that the correlation explains 56% of the variance between the two variables (keep in mind that in regression, R is interpreted as variance in the predicted (dependent) variable explained by the predictor (independent) variable(s). Keep in mind that various correlation types, such as Pearson, Spearman, and partial, are used in various contexts.

Table 8: An example of a Strengths of correlation

.8 to 1.0	very strong
.6 to .8	strong
.4 to.6	moderate
.0 to .2	very weak

The Error

There are only two major mistakes that can be made in research, as its goal is to discover knowledge. When a researcher claims to have discovered something that does not actually exist, they make the first mistake. Research findings may indicate a relationship, association, difference, or effect, but if this is not the practice case, a mistake has been made. This type of error is called alpha and is referred to as a Type I error. However, when a relationship, association, difference, or

effect actually exists, a researcher may claim to have found none. This is referred to as a beta error, or Type II error.

The Hypothesis Testing

The process of establishing whether or not study findings are statistically significant is known as hypothesis testing. Both parametric and nonparametric inferential statistics can be used for hypothesis testing. When it comes to identifying differences, correlations, and effects, parametric tests are typically more successful (have greater statistical power) than nonparametric tests. However, compared to nonparametric testing, parametric tests have stricter requirements. For instance, data must have been measured on at least the interval scale to use most parametric tests. The remaining conditions are related to population characteristics. The most popular nonparametric tests of significance are chi-square, contingency coefficient, the Mann-Whitney U-test, and the Kruskal-Wallis test; the most popular parametric tests are the F-test (ANOVA, ANCOVA, MANOVA, regression), t-test for means, and t-test for r. The t-test for proportional differences is the sole parametric test available for nominal data.

One or two-tailed statistical significance tests are possible. Probabilities based on half of a sampling distribution are used in a one-tailed test. When the research hypothesis is directed, this is employed. A two-tailed test with probabilities based on both sides of a sample distribution is necessary for a non-directional hypothesis. Degrees of freedom are used in

interpreting these test results. The test and the statistical setup determine how df is calculated. Examples of how **df** is computed for various tests may be seen in Table 9. Keep in mind that these figures will be produced automatically by the computer.

Table 9: Calculation of degrees of freedom

Statistic	**Degree of Freedom**
Dependent samples t-test	N-1
One-sample t-test	N-1
Independent samples t-test	$(N_1-1) + (N_2-1)$
Chi-square of independence	(Columns-1) x (Rows-1)

Table 10: Some Selected statistical tools for analyzing one set of scores

Score	**Descriptive**	**Presentation**	**Hypothesis testing**
Interval	Mode Median Mean Range Percentiles Interquartile range Variance Standard deviation	Grouped scores frequency table Frequency polygon Ogive Histogram Stem-and-	One-sample t-test z-test Confidence interval of mean

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	Skewness Kurtosis Standard error of the mean	leaf Boxplot	
Nominal	Mode Proportion	Frequencies (%) Table Pie/Bar charts	X^2 (goodness of fit) Likelihood ratio chi-square (G test) Binomial test Runs test
Ordinal	Mode Median		Kolmogorov-Smirnov (goodness of fit)

A few chosen statistical methods for a study with two variables in culture and endogenous research, one independent and one dependent. One or more dependent/predicted variables and two or more independent/predictor variables.

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Table 11.

Scores	Presentation	Hypothesis testing
Ordinal by ordinal	Crosstab (table) Clustered bar charts Grouped frequency table Rank-order correlation	The Wald-Wolfowitz Runs test Moses Extreme Reactions test Mantel-Haenszel chi-square Gamma Somer's d Kendall's tau-b Kendall's tau-c
Nominal by interval	Grouped frequency table Frequency polygon Histogram ANOVA tables	Independent samples t-test (two means) F-test (One-way ANOVA for three or more means) ANCOVA
Nominal by nominal	Crosstabs (table) Clustered bar charts .	t-test for difference in proportions Pearson chi-square test (independence) Contingency coefficient Phi and Cramer's V

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		Lambda Uncertainty coefficient
Nominal by ordinal	Crosstabs (table) Clustered bar charts	Mann-Whitney U Kolmogorov-Smirnov Z test Signed Ranks
Interval by interval	Grouped frequency table Frequency polygon Histogram Correlation matrix Plots	Correlation Regression

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CHAPTER FIVE
RESULTS AND DISCUSSION IN CULTURE AND ENDOGENOUS RESEARCH

Introduction

The results section is a crucial part of a research report because the purpose of the research is to find a solution to a problem, and now is the moment to present our solution. It resembles a court case verdict or ruling.

The type of study being conducted, the type of data collected and how it is analyzed, the intended audience, and individual tastes all influence how the results are presented (Pearl, 2009). Nonetheless, descriptive data can typically be displayed narratively or visually. Additionally, statistical results can be displayed narratively, visually, statistically, or in tables (Sudman et'al 2003). In reality, presenting the findings in a study report may call for one or several strategies. In the end, data evaluation and audience fit should take precedence over personal choice when utilizing a range of presenting techniques.

The Narratives

Only sentences can be used when presenting results in a narrative. A narrative is frequently used to present the results of qualitative data, and participant quotes are frequently used for emphasis. This is not to argue that graphic data is not

occasionally included in qualitative study reports. To increase impact, they could also include diagrams and images. It is also important to note that qualitative data results and discussions are not always conducted independently.

Quantitative data can also be presented using narratives. Realistically, narratives are constantly employed; the question is whether they are used alone or in conjunction with graphic display. Because the data is straightforward, we may merely utilize a story to present the results. In a story, variables with just two or three categories are easily comprehensible, particularly if the numbers are small. A story can be used to present dichotomous variables like survey return rate and sex or gender. For instance, 30% (n = 42) of participants agreed with the statement, while the remaining participants disagreed, 70% (n = 140) of respondents returned the questionnaire, and 57% (n = 80) of the sample were female. When the report includes multiple graphic presentations, using narratives for such results is practically required and more understanding.

It is useful to include the sample proportion that the percentage (%) represents when reporting results in percentages. This aids in assessing the outcomes. When a number is too small, like 25% (n = 1), it is unethical to try to hide it. This indicates that there are four samples in total (N). Take note that parts of the sample are written in lowercase (n), while the complete sample is written in uppercase (N). Additionally,

keep in mind that presenting percentages and putting the numbers in brackets makes the data easier to grasp. For instance, 42 participants (30%) agreed with the statement, indicating that some people disagreed. A narrative can also be used to present statistics. A story frequently uses basic statistics like the t-test and chi-square. However, keep in mind that these straightforward statistics could be a component of intricate models that need graphics to be easily understood.

The Tables

A table with vertical (columns) and horizontal (rows) axes, the number of which varies according to the type of data, is considered simple. Drawing tables can be done in a variety of ways, and different institutions may have different tastes. One style, known as "Academic," has no vertical lines and only horizontal header lines. It is frequently advised to draw lines that are essential to comprehend the data. With the independent variable on the horizontal axis and the dependent variable on the vertical, the table as a whole and its axes must be properly labelled. The table's body or the space beneath it may contain statistical results. Certain statistical findings, such as the analysis of variance (ANOVA), may require their own tables.

Tables are used to display facts because they do it in the most effective manner, not for entertainment purposes. It is not necessary to display data in a table if it is easily comprehensible

in narrative form. This guidance is especially important when there are already a lot of tables in the job. In fact, some people reason that study reports containing tables are superior to those without. This is completely untrue.

The Graphs

We use graphs and charts to display data visually because we believe they are the best way to comprehend the facts. Compared to tables or stories, graphs produce more vivid impressions. Pie charts, bar charts, frequency polygons, histograms, and other graph forms are examples. Nevertheless, not all data can be graphically depicted. Once more, the data determines the kind of graph to be utilized. When displaying in data disparities , graphs that compare data on one variable with another are especially useful. However, some graphs can be extremely intricate and challenging to comprehend. Using graphs suitable for the intended audience is the researcher's responsibility. Graphs need to be appropriately labelled, but how they are labelled varies depending on the kind of graph. For better comprehension, some graphs may need a key. Graphs must be drawn so that they may be read without the colours if colour printing is not used in the final product. Keep in mind that graphs that are embedded as images cannot be altered unless they are connected to the original data, in which case the graph will automatically update to reflect changes in the data.

Another way to convey data is through concept mapping. This approach shows the relationships between several linked aspects using arrows or lines, frequently in boxes. For instance, a network of components, their relationships with one another, and their net relationship with a projected variable are the result of route analysis.

It is necessary to label and number tables, graphs, and other visual representations of data properly. Style determines whether the title is positioned above or below the item. In accordance with the APA writing style, University for Development Studies (UDS) often positions the titles of all other items, referred to as figures, above the tables. Style also influences the numerical scheme that is employed. Other number tables, figures, or plates in accordance with chapters; for example, Table 3.1 is the first table in Chapter 3, while Figure 5.3 is the third figure in Chapter 5. However, every university has its own acceptable style.

Regardless of how the data is presented, the researcher must focus on the important points in the data that support the main conclusions of the study. The first danger in doing this is the propensity, especially among students, to narratively repeat all of the data in a table or figure. This is incorrect and unnecessary. Some even use tables, graphs, and narratives to display the same facts. Even worse, some display the same information using various graphic formats (such as pie charts,

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bar charts, etc.). Note that the purpose of comments on a table or figure is not to repeat the material, but rather to introduce it and highlight the important points. In fact, each table and figure in the report should be cited. It is improper to include a table or figure in the report without discussing it. In actuality, a figure or table should be cited before it comes in reading order.

If a hypothesis test is conducted, the results ought to be shared. This truly establishes the study's conclusion. The results should indicate that those differences, correlations, etc., are not statistically significant. Some students produce statistically insignificant results, debate them as though they were significant, and come up with conclusions and suggestions that contradict the facts. It is comparable to a hockey ball-game referee who whistles for a goalkeeper's foul and awards a penalty kick against the keeper's club, or a court judge who reads a verdict that blatantly indicates the accused is not guilty but ultimately renders a guilty verdict.

However, there is a problem of practical significance, in which results that are not statistically significant may nevertheless be useful, and vice versa. A new training method and an old one may not differ statistically significantly, according to a study. This indicates that the new approach is just as successful as the previous one. As a result, it is advised to utilize it in conjunction with the previous one. If it provides additional benefits above the previous one, it might even be chosen. Once more, a

treatment plan may be less effective than another, yet it may still be chosen because it is less expensive or has fewer severe side effects.

The Discussion stage

Discussion of results or findings is aimed at doing two things: first, to show how the findings of the current study fit into existing knowledge; and secondly, to articulate the implications of the findings in life. These two things are so important that we need to note them. It is difficult for readers to understand and use the study if the two statements noted above are ignored. Note that conclusions and any recommendations of the study must be based on the findings and must flow from the discussion.

When addressing how the present results of the study fit into existing body of information, the researcher should mention whether the results validate existing knowledge, i.e., how comparable the current results are to those of earlier studies. It should indicate whether the present study's results deviate from those of earlier research. More essentially, the researcher should provide potential explanations for the discrepancy and its magnitude. Variations in sample, methodology, error, and population variables (location, gender, age) can all affect research outcomes. In brief, the researcher should provide justifications for the results. Conducting a comprehensive literature review aids in explaining the findings. You now

understand that researchers need to be well-versed in the body of existing knowledge to understand how their discoveries fit into it. Researchers may need to conduct further review during the discussion phase if they fail to conduct a comprehensive literature review.

Demonstrating the significance of the current findings is the next crucial part of the conversation. The nature of the issue, the results, and the body of current knowledge all influence the implications. Because basic and applied research have different objectives, the explanation of their findings will always differ. Once more, the implications of research questions at different levels (Level I, II, etc.) will inevitably change because they provide distinct types of knowledge. When the study issue is genuinely at Level I, some researchers convey the consequences of their findings at Level III or IV. When analyzing the implications of discoveries, it's also important to consider the extent of current information and if the findings confirm it. To determine if the phenomenon is universal, the researcher may suggest alternative perspectives from which to investigate it if the body of current knowledge is limited. If there is a lot of existing knowledge, the researcher might only be able to investigate potential applications. On the other hand, if substantial knowledge is not verified, the researcher might only be able to warn the academic community and urge more investigation. However, this further muddies the waters and

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presents additional challenges for the research community if early knowledge is not substantiated.

Presenting Results and Discussion

Let me start by stating that results in some fields and types of qualitative research are difficult to tell apart from debate. The data presented here is intended for studies in which the two may be distinguished with ease. I discuss how this distinction is made in this section.

Results and discussion are separated into different chapters in some colleges and universities, especially at the doctoral level. One chapter has all of the results, while another chapter contains allthe discussion. The split is carried out in the same chapter at other universities. In other situations, the separation is carried out by a research question. In this case as well, some institutions let the full results and discussion (presented research question by research question) be included in a single chapter while others permit each research question, along with its results and discussion, to be included in a separate chapter.

Some colleges and universities have strict rules about format while others are growing more permissive to the point where students may present their work in diverse ways within the same department, faculty, or university. Diversity should be promoted in the current period of multicultural education and multiple intelligences, but not to the point of ridiculousness.

Students who intend to obtain a degree should ascertain what is permitted at their university. In a similar vein, individuals who wish to have their works published in journals must learn about and adhere to the journal's format criteria.

The following must be noted in Presenting Results and Discussion

- ✓ Choose the best method for presenting the findings.
- ✓ When presenting results, utilize tables or figures since they are the best way to depict the data.
- ✓ A study report that lacks tables or figures may lack some form of flow.
- ✓ The writing must refer to each table or figure.
- ✓ Refer to a table or figure by introducing it, underlining its contents, or directing readers to it.
- ✓ It makes sense for the initial reference to a table or figure to appear before the actual table or figure.
- ✓ Stay clear of repeating data in a narrative's tables or figures.
- ✓ Show the outcomes of any tests of statistical hypotheses.
- ✓ Use statistical significance to guide conclusions.
- ✓ Explain the results by pointing out how they relate to what is already known.
- ✓ Cite references to back up your claims.

- ✓ Demonstrate how the results benefit society and academia. Think about the practical importance.

Summary Conclusions and Recommendations

Most of students' research works now include a summary, conclusions, and recommendations. There are also differences, nevertheless, about what qualifies as a summary; students frequently struggle to write appropriate conclusions and recommendations.

Summary

Some believe that a description of the research method should come before the summary section. Others also maintain that the summary section should be used to summarize the outcomes or findings. Personally, we prefer a brief synopsis. Since this chapter is frequently the shortest, it is believed that some people are worried about its brevity.

The lengthy synopsis is divided into two sections: an overview of the research methodology and an overview of the results. The goal of the study, the demographic and sample employed, how the sample was chosen, the instrument used, and the methods used for data collection and analysis are all included in the description of the research process. A synopsis of the literature review is sometimes included. In reality, the summary of the findings is a collection of the study's key conclusions. Depending on the research problem, there may be just one

finding. There may be just one conclusion from scientific research. Students should refrain from presenting odd discoveries to bolster their arguments. The research questions, objectives, or hypotheses should serve as a guide for students as they develop their conclusions. Unintended or unanticipated discoveries may occasionally arise from a study; these should be noted as such. Students sometimes believe that if their study is designed to demonstrate the existence of something and it turns out not to be the case, it has failed or produced no findings. Occasionally, some students who have conducted no effect research nevertheless report results that seem to indicate effects. This is not accurate as a researcher.

Conclusions

The conclusions of the study are the researcher's assessments of the results. Replicating part or all of the findings as conclusions is the biggest mistake most students make. This isn't accurate. Appropriate conclusion-making is not a skill that can be acquired directly. It is comparable to the capacity to write the study's background. Reading other works is the best method to learn about it, but keep in mind that a conclusion is typically inappropriate if it sounds identical to a discovery. The discussion of the findings is the source of conclusions. The conclusions that can be drawn are primarily determined by how the results are explained.

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Recommendations

Explain the importance of the study in the early stages of the research by describing the advantages that will result from carrying out the investigation. The recommendations section serves as a guide for professionals and the general public on how to apply the findings. The quantity and diversity of recommendations that some students produce from a single study are astounding, and the majority of them are not related to the results and conclusions. Many recommendations are not necessary for a study. It should be noted that the findings of a single study are typically not used to inform policy decisions; therefore, any suggestion must be made in light of the body of current knowledge. This is what has to be discussed when discussing the findings. For instance, if one findings of the study contradict what is already known, we cannot conclude that all of the other knowledge is incorrect. As a result, all decisions should now be made based on the findings of that one study. We can only advise against using that information and advocate for further study in the field.

The Oral Presentation

The proposal and the final Thesis report are the two main presentations that graduate students must give on their thesis study. At conferences, presenters and students often have ten to twenty minutes to speak. The biggest issue is how to work within the allotted time. Presenting too much about the work

is the biggest temptation. Instead, students must provide an overview of the main elements of the assignment. The oral presentation should include the following:

- ✓ Justification and problem statement (how you came up with the research problem).
- ✓ The goal of the research.
- ✓ Research questions, objectives, and hypotheses.
- ✓ The plan or summary of the literature review.
- ✓ Methods, procedures, and research design (population, sample, instrument, data collection, and data analysis).
- ✓ A summary of the results.
- ✓ The main limitations.
- ✓ Key implications/recommendations

If students choose to use slides, it is advised that one presentation for each of these topics be used, even if the results typically require more room. At the same time, students of culture and endogenous research must note the following critically.

- ✓ A general overview of the research process may be included in the summary.
- ✓ Findings must be included in the summary.
- ✓ Conclusions come from results rather than being restatements or repetitions of facts.
- ✓ Conclusions must lead to recommendations.

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- ✓ Avoid overstuffing oral presentations and stick to the main issues.
- ✓ Prepare well and be prepared to respond to inquiries about any aspect of the task.
- ✓ Practice and rehearse the presentation, but avoid memorization for recitation, as you can get interrupted and confused.
- ✓ Make use of handouts, audio-visual aids, and additional materials.
- ✓ Ensure seamless transitions between points.

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CHAPTER SIX

SUMMARISING, CONCLUDING, AND RECOMMENDING IN CULTURE AND ENDEGENOUS RESEARCH

Introduction

In this chapter, you interpret the findings in part by connecting them to previous theory, research, policy, and practice and in part by extrapolating them to future theory, research, policy, and practice. In Chapter Five (5), daring and creativity are encouraged, but with academic restraint. Your study must provide some foundation for the interpretations, findings, and suggestions, and they are more reliable if they also draw from earlier research. In the initial draft of the finished dissertation, Chapter 5 is frequently the weakest. Students frequently rush to complete Chapter Five (5) by a deadline because they are worn out from earlier work. The student must gradually concentrate their attention on Chapters 2, 3, and 4 before expanding their viewpoint in Chapter Five (5). After finishing Chapter 4, try to take a few days off before beginning Chapter 5. Read the following rules, your issue description, significance, and constraints in Chapter 1, your literature review in Chapter 2, your Chapter 4, and your comments from Chapter 4 about items that should be included in Chapter 5 to get ready to write Chapter 5. The following subsections do not always correspond

to the chapter's subheadings; rather, they represent the common elements of Chapter Five (5).

Summary

Start by providing a succinct overview of the issue you are trying to solve, the technique you used, and the key findings of your study. Indicate whether or not the theories were validated. It should not contain any fresh information.

Conclusions

The entire set of results, the relevant literature, the theoretical basis or conceptual framework employed, and the literature limitations of the study should all be taken into consideration when interpreting the results. What can be inferred from the results, and what cannot? What could be the reasons behind the outcomes? What potential repercussions might the findings have? Generalizations that connect to the body of previous literature are called conclusions. The conclusions may relate to theory, conceptual frameworks, policy, practice, research, or the topic that was addressed. Conclusions show what is currently known after considering both your findings and previous research. You should provide a brief citation of the findings and supporting literature for each conclusion, either prior to or following the conclusion. Verify each conclusion twice because, although some of your findings could corroborate a particular conclusion, other findings might contradict it. It can serve as a foundation for cautious

generalization outside your population and setting if the literature reports findings similar to yours from studies with various populations or situations. However, take caution not to overgeneralize your findings if there is no other research that is comparable to yours or if the findings of other studies conflict with your own. The Interpretation section or a separate part that follows may contain conclusions. Differentiating between what was learned with reasonable assurance, what was just tentatively suggested, and what was not learnt is helpful when answering these questions. Make remarks with authority when the evidence is overwhelming. Add qualifiers to your assertions when the data is merely suggestive, such as "The results suggest...," "It appears..." or "It could be that." As long as you let the reader know that you are speculating, well-informed conjectures are acceptable and helpful in the interpretations.

Recommendations

Recommendations are proposals for action that consider the limits of both the relevant literature and the results. The ramifications may include new projects or changes to theory, practice, and policy. New issues that have emerged, new research topics brought up by the findings, and conceptual frameworks and approaches that appear promising or ought to be avoided in the future might all be considered for further study. When creating implications, try to account for implementation challenges and unforeseen bad effects. For a

given purpose, there can always be more than one implication, and the first one you come up with might not be the best one. The tone of implication can be tentative, advisory, or exhortative; however, as dissertations are regarded as the work of novice scholars, the latter is not advised.

Formatting the thesis write-up

The readability, legitimacy, and acceptance of your work are all greatly impacted by formatting. Following the proper formatting style guarantees that your work satisfies institutional and publishing requirements, whether you're preparing your thesis for submission or submitting it to a peer-reviewed publication. Nearly all prestigious academic journals adhere rigorously to particular formatting styles, which include rules about font sizes, margins, and, most importantly, heading and subheading layout. The APA and MLA (Modern Language Association) styles are the most widely used style manuals. Let's quickly examine how headers and subheadings in research papers are handled under each of these styles.

One area that might lead to numerous issues is typing the research report. Individuals must choose whether to type on their own or ask for help. Students are encouraged to type their own work as far as possible. If they hire someone else to type, they should remember that they, not the typist, are in charge of the finished product. Once more, they could be fortunate to find a typist familiar with the thesis format; if not, the typist

should be instructed to adhere to the format. From the moment the first word of the work is typed, formatting difficulties should be treated seriously. This will avoid the scenario in which mistakes are made while the work is finished. Correcting those mistakes takes a long time. Once more, page numbers are shifted, and tables and figures are broken due to late formatting.

Size of Font and Type

It is customary to utilize basic font such as Times New Roman or Arial; nonetheless, some universities prescribe acceptable font sizes and styles. It is required that the typeface be used consistently throughout the entire piece. While some colleges permit font sizes 10 and 11, most seem to have adopted the standard of using font size 12. Some colleges permit a few exclusions, even though the font size should remain consistent throughout the report. When a table or figure needs to fit on one page, the font size may be lowered. Only when the table is just marginally bigger than the page should this be done. A table should be drawn on multiple pages if it is really large. To maintain the page orientation, font size can occasionally be significantly decreased. To include a table or figure, the page orientation can be altered from portrait to landscape. The following circumstances could lead to the unintentional introduction of various font styles and sizes into the work:

- ✓ Page numbers

- ✓ Copied text
- ✓ Words imported from other programmes in tables and figures
- ✓ Subscripts and superscripts
- ✓ Footnotes and endnotes

Certain actions can convert the adopted font type and size to the default font if the word processor's default font differs from the student's chosen font. Assign the chosen font size and type as the default.

Line spacing

Mostly, institutions require double line spacing throughout the report's body; however, some permit one and a half spacing. The following are some instances where single or varied line spacing may be permitted:

- ✓ Long-line table or figure headings and captions
- ✓ Entries in huge tables to fit on one page or make them easier to read.
- ✓ Some universities will allow single line spacing inside entries but mandate double line spacing between different entries in the references.
- ✓ As long as the appendices maintain the features of the original document, they do not need to follow any formatting guidelines.

Alignment of Text

The placement of text on each page is called text alignment. Text can be justified (aligned to both left and right margins), centred, or aligned to the left or right margins. Clearly, just a few headings are centred; the rest of the text is not. The choice is frequently whether to justify or align the text to the left. While other universities favour left alignment, some universities utilize justify. Some universities don't have a preference. Although justified text makes the edges of the text straight, which is undoubtedly aesthetically pleasing, it may do so by stretching words apart. It prevents unwanted spaces between words from being detected.

Increasing the font size to highlight material is possible, although it is typically not permitted in research reports. Nowadays, the primary method of emphasizing text is to bold it. In certain instances, it seems to have taken the place of italicizing or underlining. Table and figure headings and titles are the primary uses for bolding. Bolding may also be used for terms, acronyms, or abbreviations that are listed in the list of acronyms or definitions of terms. It might not be ideal to hold text in any other way. Scientific names, letter variables, statistical symbols, and non-English terms and idioms are typically italicized. Italicization has taken the place of highlighting book titles, journal names, etc., in the reference list (APA).

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Pagination O

The process of dividing print or digital content into distinct pages is called pagination (Osgood, et'al 1999). It also describes the automatic process of adding successive numbers to indicate the sequential sequence of pages in print texts and some online content. It is also widely used in academic publications, where it is common practice to paginate individual articles or chapters in books. Lowercase Roman numerals (i,...) are used to number all of the preliminary pages of a thesis. The first numbered page in many institutions does not have the page number. The number does not appear on p. i, despite its existence. Arabic numbers (1,2,3,...) are used to number the remainder of the work. Universities decide where the page number appears on the page. In most universities, all page numbers are centred at the bottom of the page. Make sure page numbers are typed in the same font type and size. Page numbering may be impacted if the report's chapters and other sections are divided by page or section breaks.

Quotation Marks

Double quotation marks should be used to separate quotations that are shorter than forty words when they are part of a sentence. If there is a quotation inside a quotation, single quotation marks should be used for the inside quotation. Typically, double quotation marks are used first. Block quotations are at least forty words long. The indentation of the

entire quotation is flush with that of the paragraph. The writing's right edge is not indented. A quotation inside a block quotation needs to be enclosed in double quote marks. Quotations typically contain punctuation, particularly commas and full stops. Elliptical marks (three dots) are used when it's required to indicate that some of the content being quoted has been removed; nevertheless, a full stop should be added if it's at the end of a sentence. Eg, Afful et al (2022). states that "to indicate that some section of the content being quoted has been deleted…"

Margins

The left, right, top, and bottom of pages all have certain margin width requirements. Typically, the bottom, top, and right margins are all the same size. Because of the binding provision, the left margin is larger. Students must utilize the necessary margins. It is highly recommended that students make sure to create proper margins as early in the writing process as possible. The work becomes so disorganized that it takes a lot of effort to reorganize it if proper margins are not established at the outset and completed afterwards. Lists, tables, and figures become jumbled. It may be necessary to rewrite some tables and figures. The work may contain unwanted blank spaces and text that is too close to one another. The majority of the headings will move to different pages if the table of contents is completed before the margins are altered; therefore, it will need to be completed anew. Once more, we

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must make sure that margins are consistent and accurate throughout the entire work if breaks are added to the report.

In summary, the titles of the tables and figures should be on the same page. Lists, headings and paragraphs can be divided over two pages, although generally speaking, there should be a minimum of two lines on each side.

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