

Information Literacy and Research Skills Mr. Anand Dwivedi What is Information Literacy? "Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning." Topic Objectives An information-literate person can: Determine the nature and extent of information needed Access needed information effectively and efficiently Evaluate information and its sources critically Incorporate selected information into their knowledge base and value system Use information effectively to accomplish a specific purpose, ethically and legally Source: The Association of College and Research Libraries (2000). Effective Search Strategies Maximize Library Resources: Attend library orientation Use general reference works first, then specialized references Utilize electronic catalog systems Browse relevant books and articles Activity 1: Access library resources via the ADU website Log in to the ADU Library Portal and use databases such as ProQuest and EBSCO Evaluating Information Sources Website Credibility: .edu = College or university .gov = Government agency .org = Non-profit organization .com = Commercial organization .info = General information site .net = Network provider Activity 2: Analyze sources based on credibility and domain extensions Research Skills What is Research? Research is an organized and systematic way of finding answers to questions: Systematic: Follows specific steps Organized: Planned and focused on a specific scope Finding Answers: Aims for a conclusion Ten Effective Research Strategies: Identify a strong research question Follow a systematic methodology Acknowledge previous research Use relevant, empirical data Ensure research is representative and generalizable Follow logical reasoning Maintain external validity Ensure research is replicable and transparent Recognize limitations and suggest future research Conduct research ethically Source: Guide2Research Types of Research Qualitative Research: Focuses on non-numerical data (e.g., interviews, observations) Quantitative Research: Involves numerical data (e.g., statistics, surveys) Mixed Method: Combines qualitative and quantitative methods Qualitative Research Used in social sciences and humanities Focuses on meanings, concepts, and experiences Examples: Case studies, ethnography Quantitative Research Used in natural and social sciences Uses structured tools like surveys and experiments Analyzes numerical data for patterns Strengths & Weaknesses Strengths: Objectivity, easy analysis, generalizability Weaknesses: Requires large sample sizes, potential bias Research Process Step 1: Ask a Research Question Identify a problem or research question Example: "Does smoking affect male undergraduate students' health?" Step 2: Literature Review Read, analyze, and summarize academic sources Organize findings logically and critically Step 3: Hypothesis Formation A hypothesis is a tentative prediction about the relationship between two or more variables Example: "Owning a pet improves quality of life for elderly people" Step 4: Data Collection Methods: Surveys, interviews, experiments Questionnaires: Well-structured with demographic data and clear objectives Step 5: Analyze & Interpret Results Use statistical tools to interpret findings Step 6: Communicate the Results Write research reports or publish findings Ethical Issues in Research Plagiarism: Using someone else's work without acknowledgment Academic Fraud: Falsification or fabrication of data Misrepresenting Results: Manipulating data for misleading conclusions Conflicts of Interest: Bias in research due to personal affiliations Focus Group Confidentiality: Ensuring privacy in group research Video/Audio Taping

Ethics: Getting consent before recording Ethical Principles Honesty & Integrity Objectivity Carefulness Openness Respect for Intellectual Property Confidentiality Responsible Publication Legality Human & Animal Subject Protection Practice Research in Class Topics for Research: Relationship between height and academic performance Smoking and lung disease Television watching and obesity in children Coffee sales and temperature variations Father-son height correlation Diet and anxiety connection

References Bas, G. & Kivilcim, Z.S. (2017). Teachers' Views about Educational Research: A Qualitative Study. International Journal of Progressive Education. Booth, Wayne C., et al. (2015). The Craft of Research. University of Chicago Press. Kothari, C.R. (2004). Research Methodology: Methods and Techniques. New Delhi: New Age International Publishers. Guide2Research. Top 10 Qualities of Good Academic Research.