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| **Sampling in quantitative and qualitative research**  Choosing a sampling technique is a useful step in the research process. Its objective is to select the participants that can be representative of the whole population. The generalization of the research findings obtained from the sample to the larger population is valid if the decisions about how to sample is done appropriately.  **Population and sample:**  A population is a group of individuals or units that the investigator is interested in studying. Whether the population comprises individuals like teachers, students, administrators or units like schools, departments, universities, it is identifiable with the characteristics shared by the individuals or the units. A sample is a sub-set of the population that the researcher collects information on.  All freshmen at the university of Sétif can be regarded as a population of interest and freshmen in the department of English are a sample taken from the entire population.  **Why is sampling necessary?**  Practical constraints like time and money prevent investigators from conducting a study on the entire population. As a solution to this difficulty, a fairly smaller group of individuals is selected from the large population of interest. The study is then conducted on that small group and the inferences made at the end of the study are claimed to apply to the rest of the larger group. The process of selecting the small number of members from the larger group is referred to as ‘*sampling’*.  The group of students studying at the department of English, for example, represents a population. Likewise, all teachers of the university, all principals of high schools in the wilaya, or all primary school pupils are examples of possible populations. Sampling helps to select from these illustrative cases smaller groups of individuals to make the study more manageable and less time consuming.  **Differences between random and non-random sampling**  **Random sampling techniques:**  Also called probability sampling procedures, random sampling techniques are considered to be more rigorous than non-probability ones. Due to their use of mathematical procedures, they are more representative of the larger sample, and they guarantee making generalizations to the population with a minimum of bias.  **Simple random sampling** consists in giving every unit/ individual in the population an equal chance to be selected. One way of using simple random sampling is to use “a table of random numbers, an extremely large list of numbers that has no order or pattern”. Members of the population are selected based on the numbers existing on the table of random sampling. Such sampling reduces sampling bias but does not ensure that certain sub-groups of the large population exist in the sample.  **Systematic random sampling**: in this technique, the selection of the elements from the population frame is done by keeping the same interval between each selected element and the following one. The researcher starts sampling by randomly selecting the first element from the population list; then, he/ she skips the same number until the desired number of the sample is complete.  For example in a population of 4000 individuals, the researcher would skip each time 10 elements if he needs a sample of 400 elements.  **Stratified random sampling:** the key step in this technique is the division of the entire population into sub-populations, strata, based on the defining characteristics of this large population. By doing this, it will be possible for the investigator to select from each category a random sample. The proportion of each stratum in the sample should correspond to that in the entire population. For example, a population of second year students in the department of English can be divided into two strata based on gender: male students and female ones. If female students represent a proportion of 70% of the whole population, the same percentage should exist in the selected sample. Random selection from each stratum is ensured by using tools like tables of random numbers.  **Cluster sampling:**  The researcher identifies the groups of the population; then, instead of selecting individuals, groups are selected using probability techniques. This sampling method can be likened to simple random sampling. The difference between them is the fact that in cluster sampling, a whole group (or whole groups) is selected.  This sampling procedure is appropriate mostly to situations where the population is infinite or where sampling frameworks are not available.  **Non-random sampling techniques:**  Contrary to the previously mentioned techniques, this category is used in qualitative research. These are techniques in which “each unit in a population does not have a specifiable probability of being selected. In other words, non-probability sampling does not select their units from the population in a mathematically random way. As a result, nonrandom samples typically produce samples that are not representative of the population.” It is then difficult for investigators who use non-probability sampling to generalize the results they obtained to the entire population of their study.  **Convenience sampling:**  A researcher may select from the population any individual who is available and who is willing to participate in the study.  **Quota sampling:**  Based on the characteristics of the population, the researcher divides the population into groups. From each identified group, a number of participants are selected using a non-probability method. The use of a convenience or purposive procedure in the selection from groups is what differentiates quota sampling from stratified sampling procedures.  Quota sampling can either be proportional or non-proportional depending on whether the sample components represent the same proportions of the population or not.  **Purposive sampling**: the selection of the participants is based on particular criteria and on specific purposes that the researcher is aware of. One illustrative purpose can be the rich information expected to be collected from particular participants.  **Snowball sampling:**  The researcher can start with a small number of participants from the population and this number gets larger. Each element can guide the researcher to new additional elements until the desired number of sample individuals is complete. |