Descriptive Research study design

Recycling is an easy everyday way for people do their part in prolonging the stability of the environment. Yet, many high school students, ages 14-18, do not dispose of their trash in the correct bin. Of the three bins, one is for non-recyclable trash, the green bin is for mixed paper, and the blue bin is for rigid containers, such as metal, glass, plastic, or cartoons. The average classroom has all three bins, yet most students remain to incorrectly dispose of their trash. This study will require a cognitive psychological approach because we are aiming to understand what thought processes affects the way in which the students behave towards trash disposal. Other approaches test genetic or biological implications, but The Cognitive Approach tests the thought process used to incite the behavior. The descriptive research method to use would be the Naturalistic Observation. This involves observing and recording information in a naturally occurring situation.

First, you need to find a high school, preferably not a science or environmental studies centered school. Students who attend a science related school should be well aware of the importance of recycling. In other words, they hold a bias and will not provide accurate data.

Second, you must sit in the vicinity of the trash cans, but not in the immediate area so the students don't know you are watching for that specific reason. You must make sure there is no reference poster near the bins indicating which item belongs where. This will show you their ability to follow instructions, not their thought process or if they know the proper sortation. You must not tell them you are collecting data on students who dispose of trash correctly or they may purposely choose the correct bin. Along with biases, this will provide inaccurate data. The most trash students produce in school would be paper, beverage bottles, or supplies which all belong in separate bins. This means there is no imbalance of disposing options, which can also provide inaccurate data. You must record every time a student throws an item in the wrong bin, along with their age. This will tell us if as children grow older, they will care more for the environment. A 14-16 years old would be considered young, whereas a 17 or 18-year-old would be considered older. This will provide inferential data on which age group recycles deliberately.

Depending on your results, you will be able to determine if the average high school student is aware of the importance of recycling. You will also understand whether a student closer to adulthood (17-18) tends to show behaviors of concern for the environment. Given that they are soon to experience the world on their own, their thought process to recycle may imply that independence is linked to maintenance and sustainment, which they applied into recycling. However, if the youth do not recycle, even if closer to adulthood, this can progress into generations who do not realize the negative impact not recycling has on our planet. We can lose provision of natural resources and decrease the stability of Earth. Upcoming generations must at least recycle to do their part in the preservation of the planet.

Correlation Research Study design

In this study, the two topics I will test are weight and self-esteem. The research conducted will reveal if these two factors are related. Weight will be measured in pounds, and a Body Mass Index calculator will help decide if the person is average, overweight, or underweight by considering factors such as their height, gender, and weight. Self-esteem will be measured by taking a personality test that will convert the selected answers into a number from a scale of 0-100. 0 being low self-esteem and 100 being high self-esteem. If weight and self-esteem have a positive correlation, the correlation coefficient will be close to positive one. If weight and self-esteem have a negative correlation, the correlation coefficient will be close to negative one. This correlation coefficient can be calculated. If there is no correlation, the correlation coefficient would be zero.

First, you must gather participants that vary in weight. This will be determined by their BMI number. Affirm with the participants that you are testing to see if weight and self-esteem correlate, and make sure they agree. Since weight is a sensitive topic to most, make sure they are aware of the possible results to avoid any unethical events. You should have at least 30 people for each underweight, average, and overweight BMI. The total of 90 people will take a personality test that asks agree or disagree questions in relation to oneself. You should inform the participants to answer truthfully and their answers are confidential. This test results in a number from 0-100, revealing an approximate measure of the person's self-esteem. 0 being low self- esteem, 50 being average, and 100 being high self-esteem. The data will be graphed using a scatter plot, “x” being weight and “y” being self-esteem. The data collected will help interpret if weight has, or has no, affect on self-esteem. Because this is a small group of people, the results are not concrete. However, the results will provide inferential data that will create a reason to believe weight impacts self-esteem, not the truth behind weight and self-esteem.

Experimental research study design

Question: How does interest affect the ability to memorize?

Hypothesis: Students who watch engaging videos of the periodic table will remember  more elements than those who watch a plain video of the elements because our brains memory is aided by images, examples, and making connections.

Independent Variable: How engaging the video will be.

Dependant Variable:  The number of elements the student is able to memorize.

Operational Definitions: As for engaging, this video will be used: <https://www.youtube.com/watch?v=VgVQKCcfwnU> . This video features a rhythmic tune, objects that are made up of each elements, connections between preceding elements, and use image associations to improve memory. As or a dull and plain video, <https://www.youtube.com/watch?v=LFsdbLFHgY8>  . This video consists of scientist speaking of the elements in monotonous voices. Even though the information they provide is correct and insightful, they do it in a way that does not provoke strong interest. If the student is able to state 20 or more of the 118 elements from memory, then the student is considered to have a good memory. From 15-20 remembered would be average memory. If the student remembered 15 or less, then it would be considered a bad memory.

Procedure: First, you must find two students of the same age who have not taken a chemistry class or know little to nothing about chemistry. If one student knows more of chemistry than the other, this creates a confounding variable. To avoid a bias, the students must not favor science, but are indifferent towards science.

Second, give one student the dull video to watch; this will be the control group. The second student will be given the interesting video to watch; the experimental group. Each student will watch the video twice. They are not allowed to take notes while doing so. To make it a blind procedure, the students must not know they will be tested after watching the videos.

Third, give both students a verbal test, and record the number of elements they recite and properly explain. The questions you ask must be open-ended and not suggest an answer. Depending on the results, it will help prove that engaging videos to enhance memory, or do not.

Conclusion: The results from this experiment will show is students grasp content better when a strong effort is made to enthusiastically and creatively present the content. This can reform teaching methods or memorizing skills. Even though it may not imply to every student, it provides inferential information that can help more students than harm them.