Introduction

***A Picture May be Worth a Thousand Words***

A number of factors represent the ways people retain information whether through visual stimulation or for instance the traditional verbal presentation with a written example. Every day these methods are being used to teach people information, whether they are fully retaining the information by the way that they are being presented is still questionable.

***The History***

Since Kindergarten we have been taught to retain information in a variety of different ways. As I remember in our early years of life mostly everything was being presented to us visually with verbal assistance. As early as the 5th grade we were presented with a mix of visual stimulation and a traditional way of presenting information of just examples and verbal stimulation, A black and white representation. Now various teachers have different methods of introducing information to their students whether it is just verbally introducing the new material or producing pictures to help retain that information better. In most cases classes which are taught through visual stimulation are classes like the sciences, and the history classes. The classes that use just a black and white representation of the material, by black and white meaning that the information that is presented is presented to the student visually but with no graphics or color stimulation just through writing and a verbal explanation. The English and the math classes do these types of teaching methods.

***The topic to our solution***

We have felt that in the few classes that teach through a visually stimulating presentation helps us retain the information quicker and better than through the traditional black and white representation. So we came up with a question and we wanted to test the question. Do people retain information better if presented with a visually stimulating presentation, for instance adding animations or pictures to enhance what you are trying to remember.

Young children when they are still toddlers are taught through picture books which they develop a type of pattern of memory retention through the pictures or the pop ups that happen before them. The pattern is that they are presented with an issue they are taught how to tackle that issue with a variety of options, for instance they are told what the problem is if they needed to remember a word. They are told the word verbally then they are presented with a picture or an animation of that word, depending on what the word is, then they are asked to recite it themselves. Through the early stages of life we are taught these stimulating ways of retaining information, then later on in life we become familiar with a less stimulating, less interesting way of learning which is verbal retention with examples of a problem or dilemma. Teachers, tutors, or even peers who try to present the information who have no stimulation involved in their presentation just make the problem or issue that is needed to be defined less interesting, less stimulating and it diverts our attention away from the primary goal, which is to remember what is being told to us.

***How it came to be***

While we were thinking of things to do on our project we first came to decide that we wanted to do something on students and sleep, if sleep is a direct variable in the amount of information taken. If one is very sleepy then it would be harder for him to learn vs. the one who had a full nights rest. But then we decided that there would be too many variables that could affect our studies so we were talking about how we were so different in kindergarten and how much fun It would be to still be like a kid again, and it came up, why was it easier when we were kids? And the question came from that, do we retain information better when we are presented with a visual type of stimulation or do students prefer a traditional basic way of teaching. From that question we decided that we were going to pursue this project in having our subjects learn some basic words. Words that the recognize that are placed in a group or a sequence.

***Information***

There have been books written on how the brain retains information and how it is different for many people whether you are a visual, verbal, hands on, or any other type of learner, nonetheless if you are presented with a problem and you learn how to tackle that problem in a variety of different ways your bound to remember that solution to the problem in one of those ways because you have a variety set in your mind. The books that have been written about this subject matter are “Maps of the Mind” which goes in depth about how your mind works and how there are patterns that each individual undergoes to remember things. Another is “Superpower Faculties” which is also a book about the same subject matter it just a book that coincides the theory that “Maps of the Mind” states. These books and many others support the theory that if the mind is presented with a visually stimulating viewpoint that has stimulated the subject, the subject then is able to retain the information better than if the subject was spoken to with an example of the solution.

***The Test***

In order to test our outcome we have come up with two different lessons, well they are both identical. Meaning different is one of the tests or lessons is visually stimulation were the other is just a black and white presentation with no fancy graphics. A dull representation of what we are trying to teach the class. We figured that it would be really difficult to actually teach a class new information so we decided that we would present the class a series of words. The first set of words would contain four words all being the same type or group which is animals. The second set of words would contain a set of six words all belonging to the same category which was foods. The last set of words would contain a total of ten words all being states and one word that we figured everyone would remember because it was randomly put into our presentation to test if randomness also could play a factor in helping someone remember. After they took each test they were given a two minute break period where they were presented with some music to help relax them. After the two minutes were over they were provided with an envelope which had blanks on it so they could put the words down on the black lines. They were given a minute to write down their answers. The purpose for the two minutes is so that they don’t just regurgitate what is fresh in their mind, the purpose of our project is to test if they can remember things if they are presented to them. For instance if a teacher gives a lecture, the students are going to remember at the time of the lecture what is going on but when they get home will they understand and remember what went on in that lecture forty five minutes to seven hours later after that lecture. Of course we don’t have forty five minutes to seven hours so we will do a tangible two minutes were the students are asked to keep quiet and relax while the music is playing for them.

***“I Paint what I think not what I see!”***

Over the centuries theorists have often wondered whether or not we can see before we can think. It was Pablu Picasso who was famous for stating “I paint what I think not what I see.” Therefore if you think about it, seeming logical as we ask the same question to determine the effect of visuals on learning. “If you were to look at a glass of water for instance many would argue that the glass is half empty, but others will say that the glass is half full. That is a perception of learning” THE WEEKLY COLUMN. Like for another example if you were asked to count the doors inside your house would you take a mental picture of your home? Another perception of imagery that could be tied into the topic of being a visual learner. When we were kids we were brought up in the age of cartoons and television, mainly the peak of videogames (Nintendo Entertainment System) where you are presented with an interactive visual experience all dealing with graphics and pictures.

***Scientific Backup***

MacLeod (1980) believes there is a relationship between the processes of comprehending a linguistic statement corresponding to a visual scene. Over the years this ideas has intrigued psychologists because it seems to be an important element in many kinds of mental activity of two forms of stimuli converting to internal representations. According to more current research, the more sensory modes in which mental representation is stored, the more likely they will be remembered (Borsook. Higginbotham &Wheat,) 1992 Bagget 1989 posits that images are stored in memory. These images contain more information because they have more cognitive pegs that can be used to make associative and referential connections between visual representations and information held in long term memory. This research suggests learners employ dual coding to construct a mental model of the learning experience. Therefore, it can be implied that visuals may evoke relevant knowledge for those that have it to draw on. It is then assumed that most learners will integrate available symbol systems (visual, audio and/or text) to construct or elaborate on a model of the situation as a strategy to recreate in their mind a picture image of an event. Morra a scientist in the field in 1989, shows that children tend to use the strategy based on phonemic coding; whereas, adults used a "mental mode" strategy. A mental mode is an analog representation of the structure. Whether perceived or conceived the model(s) represent the item being described with descriptive language. It is also fair to state that research shows that people can construct a mental representation of the semantic meaning of a story from either audio or visual information alone. However, it appears that when presented together each source provides additional, complementary information that retains some of the characteristics of the symbol system of origin.

**Defining a Visual**

A visual is any projected or non-projected image that can be classified into illustrations, visuals, pictures, perceptions, mental images, figures, impressions, Likeness, Replicas, reproductions or anything that would help someone see an immediate meaning. The visual is considered projected when it is planned for and executed with an intended meaning. In contrast, the non-projected visual is the result of an spontaneous occurrence of an image that is usually unplanned and occurs in relationship as a result of a triggered catalyst.

***Every Day Application***

Today in the classroom we are exposed to a variety of technological advances. Teachers in every classroom are up to date with new computers that have the capability to utilize visuals that stimulate the minds of their students. Yet most of the teachers prefer a more traditional way of teaching a less technologically advanced curriculum that is in turn less stimulation to the students. In an article “ Educational Computing New Direction: Cautiously Approaching an Unpredictable Future,” the author Thomas A Callister, Jr says that in a progressive classroom students must turn from receptacles in innovators,” create ways in which children can be creative and self expressive using a computer in areas that are not intrinsically computeristic” Pg (249). One of the major obstacles facing progressive learning are the teacher’s authority in respect to computers and the necessity for teachers to stay in tune with the technological changes. If you use creativeness in coming up with a lesson the stimulated student will participate in whatever the subject matter is and in return understand the information that is presented to him in a better way allowing the student to receive the information in a variety of informational gathering.

***Visual Presentations and its Physical Relationship to the Body***

Studies such as those in the early 1970s at the University of California at Berkley show that the different hemispheres of the brain may affect human learning. Physical perception of what is scene may differ amongst different learners thus allowing a greater range of responses to any given visual. For example if "Learner X" is given a picture the student may be able to interpret how they see the picture and relate it to language in two distinct ways. First they may use top down visuals to test ideas against facts or solve specific problems. Secondly the learner may use bottom up visuals to scan and organize information with the use of graphics (Canning 1997). It is a biological fact that the eye is not separate from the brain. The eye and brain are part of the same organ. Because human beings have evolved to have several distinct intelligence and no one general intelligence, interpretation of visuals and the use of visuals may affect learners in different ways.

***Previous Studies***

A preliminary study was undertaken in the Spring of 1997 at the University General Requirements Unit at United Arab Emirates University. 145 Female students on the Maqam Campus were asked to write an essay about a technical item called a "Blender". Group A was given a visual graphic of a blender in the upper right hand corner and the directions which read: Please write a paragraph about the function of a blender. Group B was given only the direction without any visual reference. All classes that semester were exposed to kitchen items in the classification unit and description unit of the curriculum. Spelling, grammar and mechanics had no influence on the results of the study. The study was interested in whether or not the visual aided in the writing prompt. The results in the study revealed that 93% of the candidates who were given the prompt with a picture were able to describe the Blender. Only 52% of the participants who didn’t have a visual stimulant were able to write about the basic descriptions of the blender.

***Advantages of Visuals on Retaining Information***

A learner’s sensitivity to language and their ability to create relations amongst words can be further enhanced by the use of visuals. Graphic images can bring out more detailed, knowledgeable, responsive, awareness to the object, situation or text being communicated. Moreover, the use of a picture may lead a learner to more abstract thought as well as the ability to distinguish ideas or to demonstrate greater precision counting organizing skills through the use of logical structure. Overall, an bring out a more complex sensitivity in the learner Pictures help individual learners predict information, infer information, deduce information, analyze today’s world so that it can be brought into today’s classroom and offer social settings which can immerse or expose the learner to new ideas or further promote an already created setting. If a visual is used in a testing or teaching situation it can enhance clarity and give meaning to the text or to the message being communicated. Visuals can serve to create a solid link between the material learned and the practical application of it on a test Canning, 1998.