Journal of Education and Future, year: 2015, issue: 7, 49-65

A Model of Teaching Reading and Writing According to the Constructed Representational Systems

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Abstract

The purpose of this study is to teach reading and writing to the students with mentally disabled in a short period and easier than normally have, using NLP technique of anchoring and photographic memory techniques of memory techniques. In studies which have made at different times, 12 illiterate students has performed and according to this performances 3 of this students were began to teach reading – writing with technique of 'ba' and 9 of remaining were began to teach using the system of words based on sounds. In the studies, made by, for each letter and syllable demanding to teach to students, firstly a basic representation was shown and it was spoken about the visual representation which will form pre condition concerning the syllable and letter, demanding to taught. After made some changes on this visual representation which was shown, this visual representation was formed including the clue about the syllable or letter and after that it was shown to the student with its last form and it was spoken about its last form. Later, how was the pronunciation of the syllable or letter and how gone out from mouth were tried to be taught to the students and they were requested to repeat. Afterwards, a tactual representation (inspired by NLP technique of anchoring) as a clue for syllable or letter was given to the student considering to (his/her) student's interests, desires, abilities, qualifications. Normally the student can not remember the syllable or the letter which he/she has seen before, but if using the tactual representation, he/she will try to recall it more quickly. With this method 8 /12 students began to read – write, 4 students have been in teaching process. Each of the two performances, between the students that have taught with this way and still have been teaching, and also the students that have tried to be taught reading – writing before use tactual representation, were compared. If it is compared the students who are similar to each other academically, this method of education lasts shorter than the other methods and the students began to learn easier.

Keywords: mentally disabled students, reading and writing education, brain and education, memory techniques

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Temsil Sistemlerine Göre Yapılandırılmış Okuma – Yazma Öğretim Modeli

Öz

Bu çalışmanın amacı; zihinsel engelli öğrencilere okuma – yazma öğretim sürecinde temsil sistemleri, NLP tekniklerinden çapalama tekniği ve hafıza tekniklerinden fotografik hafıza tekniğini kullanarak okuma-yazmayı daha kısa sürede ve daha kolay öğretmektir. Farklı zamanlarda yapılan çalışmalarda okuma – yazma bilmeyen 12 öğrencinin performansı alınmış, alınan performanslar ışığında 3 öğrenciye "ba" yöntemi, 9 öğrenciye de ses temelli cümle yöntemi uygulanarak okuma – yazma öğretilmeye çalışılmıştır. Yapılan çalışmalarda öğrencilere öğretilmek istenen her bir harf veya hece için, önce yalın bir görsel temsil gösterilmiş ve öğretilmek istenen harf veya hecenin öğretimine önkoşul oluşturabilecek şekilde görsel temsil ile ilgili konuşulmuştur. Gösterilen bu görsel temsil üzerinde bir değişiklik yapılarak, içinde öğretilmek istenen harfe veya heceye ait bir ipucu barındırır hale getirilen bu görsel temsil, bir de bu haliyle öğrenciye gösterilmiş ve tekrar öğretilmek istenen harf veya hecenin öğretimine önkoşul oluşturabilecek şekilde görsel temsil ile ilgili konuşulmuştur. Daha sonra harf veya hecenin sesletiminin nasıl olduğu ve ağzımızdan nasıl çıktığı model olma yoluyla öğrenciye gösterilmiş ve aynı harf veya heceyi öğrencinin de seslendirmesi istenmiştir. Daha sonra öğretilmesi planlanan harf veya hece için öğrencinin ilgi, istek, yetenek ve yeterlilikleri göz önüne alınarak öğrenciye, bu harf veya hece için ipucu olma niteliğinde bir dokunsal temsil (NLP çapalama tekniğinden esinlenlenerek) verilmiştir. Öğrenci gördüğü harf veya heceyi anımsayamaz ise, kendisine verilen dokunsal temsil sistemini kullanarak, bu dokunsal temsilin o harf veya heceyi daha çabuk anımsamasını sağlamaktadır. Bu yöntemle 12 öğrenciden 8'i okuma – yazmayı öğrenmiş, 4 öğrenci de öğrenme aşamasındadır. Okuma – yazmayı bu yöntemle öğrenen ve hala öğrenmekte olan öğrencilerle, bu yöntem kullanılmadan önce okuma – yazma öğretilmeye çalışan öğrencilerin performansı karşılaştırılmıştır. Akademik performans olarak birbirine yakın olan öğrenciler değerlendirildiğinde bu yöntem kullanılarak yapılan okuma – yazma öğretim sürecinin diğer okuma – yazma öğretim süreçlerine göre daha kısa sürdüğü ve öğrencilerin okuma-yazmayı bu yöntemle daha kolay öğrendiği sonucuna ulaşılmıştır.

Anahtar Sözcükler: zihinsel engelli öğrenciler, okuma-yazma öğretimi, beyin ve öğrenme, hafıza teknikleri

Introduction

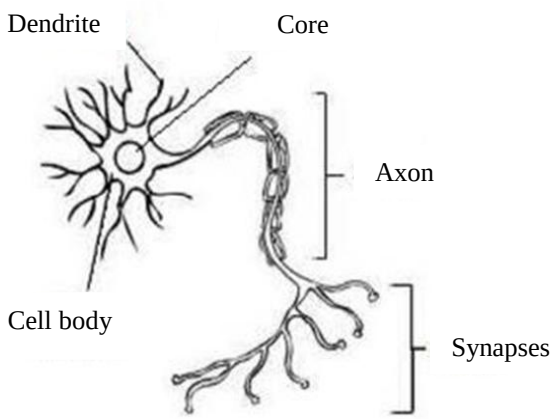
Learning is the result of human interaction and changement comparatively between each other conscious or unconscious. Learning process means also adaptation to the environment (Keleş & Çepni, 2006, p. 1). So, at the end of the education process, people try to arrange their knowledge systematically and try to accommodate new encountering situations. This effort may be held by consciously or it may be organized by the brain unconsciously. There are various factors affecting the learning process and in this process there are various effects which affect learning.

The Functioning of the Brain in the Learning Process

The brain scans and operates the information, stores and when you need, it recalls. In this process, each of recalling information cause some changements in brain networks. In the periods of learning, structures of brain neurons change. This changement between the neurons that helps connection chemical and electrical increase the number of synapses. When human learn something new, connection between the synapses provide increasing neurons in brain (Korkmaz & Mahiroğlu, 2007, p. 5). Thus, human begin to make contact between events.

Information that we learn, is moved by electrical signals and stimulants in the neurons. After it passes between the synaptic connections that is connected by the aid of notions chemical named as nörotransmitter. The bigger the connection is between these Networks, the stronger the brain and the memory is.

Neurons have the Networks resembling fiber named as axon structurally. Its color seems like grey. Tips of axons connect with other neuron or another axon. Axon's basic function is to carry stimulants to dendrites which look like rods. Dendrites connect the network between neurons by the tips of connection synaptic. Relations synaptics is the main object that works. Because electrical activities of brain are carried to synapses and networks are connected between synapses and chemicals which is formed after handling of. So, information store in our brain, and when we need it, it can recall by us (Delen, 2013, p. 51 – 52).



Picture 1. *The steps of carrying information in neurons*

Hipocampus, which is located in the middle of the brain and formed with three sections, is the center of memory. This section decide if the information will pass the brain or not and includes the step of recalling, storage and codification. Also, one of the most important tasks of our memory is to remember the things what has passed in the past (Polat, 2014, p. 2).

Codification; is the way of getting the information that coming outside. Storage; is the process of storing the information codified in memory. Recalling; is the way of finding data in the memory and recalling them which was transformed to the information when wanted. If information can be found and can be used in the steps of remembering process, this shows the success of codification and the steps of storage.

The Function of Memory during the Process of Learning

Memory of sensorial. Sensorial memory or sensory record is the place which information comes first. All of the data that involves in the sensorial store are information gaining by sensorial mechanisms like eye, ear, etc. Stimulants coming outside are recorded to senses after received by receiver.

Time of Sensorial record is too short. For example; imagine sitting in the canteen of school and drink something with one of your friends while cheating about an important matter. There are a lot of stimulants around us: the sound and image of TV, the sound of fork - knife and spoon, the other people's noises in the canteen, the noise of the cleaning staff who sweeping the floor, sound of the tea spoon when you meld, the sound of the cash register. All of these noises and images come to our sensorial memory with our sense of hearing and sense of sight. But as our friend is at the center of our interest at that time, all other noises can stay very short time in our memory. As our interest at the center of our friend at that time, all of the data we heard may not be significant in memory.

Short term memory. Only a portion of the information obtained by the sensorial memory transfer to the memory of short term. Short term memory stores the information for a while and keeps alive. Storage area of the short term memory is very limited. It stores the information after make codification. Stimulants coming from sensorial memory to short term memory form RNAs in the cells of short term memory by chemical and electrical flow. If RNA can not pass through long term memory in 10-30 minutes, it will loosen. Cell return to its first form and stimulus is forgotten. Hence, it forms the way of forgetting.

Long term memory. The place which information, coming from short term memory, stores systematically is Long term memory. It is the storage of the mind. This memory provides arranging and filing the information coming from the short term memory systematically by aid of associating, imaginating and assimilating. Information coming to long term memory connects with DNAs in the long term memories. After DNA connects with RNA, its form changes and information that RNA carry, join the cells as amino acids. Anymore, even if we think we forget this information, they live within us forever (Delen, 2013, p. 94). It is not possible to

forget this information. But sometimes we can have difficulty in recalling this information, and this is because of disremembering. Also disremembering is a situation of wrong codification of the information.

Thus, there are a lot of factors which affect learning. The most important factor which affects reaching information to the brain by senses, operating in the short term memory and taking to the long term memory is matching the lob of brain with specialty of the stimulant or rising the movements in the area in which lob of the brain is not active. These are the right lob and the left lob.

Functioning of Brain Hemispheres during Learning Process

The right hemisphere. The Right Hemisphere processes data as a whole by picturing them. It uses descriptions and symbols and responses to shape and colors. It gives reaction to music, body language and touching except verbal expressions. It is intuistic, it follows intuitions and feelings. It relates with the objects not abstractly but emotionally. It uses spatial relations. One of the main characteristics of the right hemisphere is being emotional and productive. It learns by seeing and hearing. It is curious about fantasies, poetry and metaphors. It also controls the movement of the left part of the body and the sensorial organs on the left.

Functions: Creativity, Subjectivity, Remembering, Seeing the whole, Instinctive, Intuitive, Feeling, Hearing, Smelling, Tasting, Rhythmic, Musical.

It controls the left part of the body.
It is emotional.
It learns kinesthetically.
It frees emotions.
It remembers faces.
It takes risks and is less controlling.
It follows written or shown instructions.
It solves the problems by taking it as a whole.
It prefers using objects drawing.
It searches for similar qualities.
It is intuitive.
It is wholistic.
It is automatic.

The left hemisphere. The left hemisphere is the center of speaking and language. It thinks analytically. It is logical and systematic. It processes data sequentially and linearly. It is elaborative. It is dominant at numerical processes. It uses causality. It also controls the movement of the right part of the body and the sensorial organs on the right.

Functions: Naming, Mathematical processes, using language in a proper way, Examining, Seeing the parts, Systematic, Analyzing, Disciplined, Objective Classification, Logical, Putting in order.

It controls the left part of the body.
It is logical.
It learns auditory and visually.
It controls emotions.
It remembers faces.
It hardly takes risks.
It follows verbal instructions.
It solves the problems by dividing them into parts.
It prefers writing and speaking.
It thinks mathematically.
It searches for differences.
It is rational.
It is continuous.
It is mostly mental.
It is structural.
It is tactful.

None of these two hemispheres is more important than the other one and human beings need both of them. For most people the left hemisphere is responsible for speaking and the right hemisphere is for perception. It is a fact accepted by the scientific authorities that the cooperation of the weaker hemisphere with the stronger one makes many contributions to general abilities and the level of the mental effectiveness produced by the cooperation of two hemispheres is higher than the level of mental effectiveness produced by them single – handedly (Korkmaz & Mahiroğlu, 2007, p. 5 - 6).

The left hemisphere of the brain is more appropriate for processing verbal, mathematical, logical data and, the right hemisphere is for perceptional, interesting, spatial, wholistic and artistic data. But these two hemispheres communicate with each other by a neurological connection and they both make contributions to any learning process. Also the most important factor in an effective learning is the number of connected axons - which is depended on the diversity of stimulus - in each hemisphere. The left and right hemispheres work as a whole. The people who use their both hemispheres effectively raise their mental capacity a lot. For this reason we should develop teaching methods which support our children's both creativity (the right hemisphere) and logical thinking ability (the left hemisphere) (Saygın, Maraşlı–Maraşlı, 2000, p. 31-36).

Memorizing Methods during Learning Process

Memorizing methods can be defined as the methods which evoke the unused part of the brain and ensure easy, fast and permanent learning. Here, the most important point is the permanence of learning. Because the possibility of using the

knowledge again depends on its permanence. In order to achieve that many memorizing methods have been developed. The most common characteristic between these methods is evoking both left and right hemispheres simultaneously.

Our minds can perceive and process concrete images easily. A picture sometimes may be able to explain whereas hundreds of words cannot. Caricaturizing the words consciously by making them vivid, clear and shiny images impress the memory very effectively. Mental interpretation occurs in the right hemisphere of the brain. When right brain becomes active, both hemispheres are involved in the process of learning. The left hemisphere defines the words as the right hemisphere conducts images. Therefore; by activating both hemispheres, knowledge can be acquired easily and becomes more permanent with the methods of conscious picturing and persistent association (Delen, 2013, p. 78).

Representational Systems in Learning Process

Representational systems, as well as memory techniques, have a major effect on learning. Each individual has his own way of learning depending on his leading representational system. Many people regarded as lazy, in fact, have difficulty in learning since their learning styles are unknown or ignored. There aren't individuals who can't learn. There are individuals who learn through different methods.

There are three types of representational systems:

Visual representational system. Individuals with visual representational systems; can't study in noisy environments, can't focus on learning activities without visual materials, are interested in the image of the person leading the learning activity, can't concentrate under fluorescent light and can study 40-50 minutes. Learning styles of the individuals who have a strong visual representational system are; visual tests, written reports, graphic presentations, note taking, list making, visual books, mind maps, videos, silent environments and fast reading.

Audial representational system. Individuals with audial representational systems; can't read fast, read silently, generally have difficulty in finishing tests and realizing the details, are easily affected by noise and any kind of sound, are generally interested in the voice of the person leading the learning activity, can study 30 minutes. Learning styles of the individuals who have a strong audial representational system are; reading aloud, listening, group discussion, reading poems, learning through recording their own voice, listening to instrumental music while studying.

Kinesthetic representational system. Individuals with kinesthetic representational systems; are uncomfortable with talking loudly, have difficulty in listening in oral courses, can study 20 - 24 minutes.

Learning styles of the individuals who have a strong kinesthetic representational system are; learning through practicing and moving, learning manipulatively, teaching physically actively of the person leading the learning activity, appreciation of their feelings and emotions, and through oral explanation.

Representational systems of the individuals define their learning styles. One of the most fundamental deficiencies of our education system in our schools is that we try to teach through only one channel without showing the students different learning strategies (Kılınç, 2005, p. 37-38).

Mostly, students matching with the representational system of the teacher are more interested in the teacher, while the others lose interest in the teacher and, in most of the cases, are categorized as lazy (Kılınç, 2005, p. 37-38).

Visuality, audiality and kinesthesia are all linked to our sense organs. The more the sense organs exercise their fundamental functional features during learning, the more permanent the learning becomes. However; if the individual uses more than one sense organ in the learning process, the learning becomes more permanent. In order for neurons to receive enough amounts of signals, more than one data (visual, audial and kinesthetic) must be stimulated. This leads to the activation of neurons. Thus, the learning becomes more permanent.

According to the researches, individuals remember;

10% of what they read;

26% of what they hear;

30% of what they see;

50% of what they see and hear;

70% of what they say;

90% of what they say about the things they have done (Learning Process and Learning Psychology).

This is the sign of an easier and more permanent learning achieved through participation of more than one sense organ in the learning process.

Anchoring Technique in the Learning Process

As already known, the anchoring technique replaces negative ideas and feelings with more positive and better feelings, and associates not directly relevant events and facts consciously or unconsciously.

It takes skills to transfer your personal performance to various domains of your life and to keep positive feelings and ideas alive while directing your own transformation. In order to succeed at this, you can use the technique called anchoring (Baran, 2007, p. 268).

The anchoring technique includes everything happened to a person or everything he lived, some or all of the sensory, audial, tactual, visual, taste and smell experiences of an individual. The anchoring technique includes the tendency to repeat any of these to bring all of these experiences back. In short, anchoring is linking one thing to another; it is associating two things. Anchor is a stimulus that stimulates a reaction. These reactions activate links or memories that might push us into positive or negative moods (Kılınç, 2005, p. 37-38).

To sum up; in the learning process, information and environmental stimulus are received through sensor organs and are transmitted to the brain. These information and stimulus are restored in sensory storage in a short period of time. A part of the information in the sensory memory is transmitted to short - term memory. The

information in the short-term memory is transmitted to long - term memory after several transactions. The information coming from the short - term memory are put in a systematic order and stored in and called from the long - term memory.

In addition to this, the brain consists of two lobes; the right lobe and the left lobe. Besides the operation and the function of the right and left lobes being completely different, the learning becomes quicker and more permanent when they work together.

The representational systems also have a major effect on learning. The more the individuals use their sensor organs while learning, the more permanent the learning becomes. Moreover, through using anchoring technique which is one of the NLP techniques, the information and the stimulus can make learning more permanent by being linked to different events, facts and objects.

If this is the learning process in a normal brain, what about the learning process in a mentally disabled brain? Let's talk about this now.

When we think about the situation of a mentally disabled individual in the learning activity, we see how important the healthy sensor organs are. Any damage occurring on the information received through sensor organs will continue throughout the learning process and may cause problems in the formation of the synaptic links and neural network. This affects the learning process negatively based on the wrong processing of the information on the next stage. Thus, the information being transmitted to the brain through sensor organs is vitally important. This fact isn't enough by itself. The stages of transformation of the stimulus into information proceed in different ways.

Cognitive Developmental Properties of Mentally Disabled Individuals

Attention. Mentally disabled children have difficulty in concentration to learn. Their attention is scattered and short - termed. Mentally disabled children get tired very quickly during studies, dread instantly in the face of obstacles, have problems in adaptation to new situations. This prevents the learning motivation of these children. Post failed experiences and the stress caused by these experiences can cause the children to worry about doing their duties and also can cause the lack of motivation. According to the researches, these children's motivation is lack because of their frequent failures. As a result of this, they need someone's help to solve the problems or even they solve the problems, they do not trust their own solutions (Aruk, 2008, p. 40).

Memory. All mentally disabled children have difficulty in remembering. In mentally disabled children, both short-termed memory or long-termed memory problems and the problems in repetition processes which are necessary for putting the information into their memories are occured. These children do not use instantly appropriate learning and keeping in mind strategies. Mentally disabled children have trouble in realizing the conditions and behaviors that help to learning and memory; they also have difficulty in transferring the information from short - termed memory to long - termed memory. According to the researches, mentally disabled children

find it easier to remember the information afterwards which is provided by visual materials (Aruk, 2008, p. 40-41).

Generalization. Generalization is the ability to transfer the learned information or behavior to information or behavior and other environments. Mentally disabled children have difficulty in generalizing the skills they learned at school to home and society environments. That is because their home and society environments are more complex than their classes and there are more stimulus in these environments (Aruk, 2008, p. 41).

Educational Requirements and Learning Processes of Mentally Disabled Individuals

The purpose of mentally disabled training is to improve the individuals' basic life skills, to fulfil their learning requirements, to provide their adaptation to society, to prepare them to job and profession. Generally, if the proper support and care is continuously provided in a certain period, the improvements in life functions of disabled individuals will occur.

In education of disabled individuals as in education of all individuals, the purpose is to make them survive without being dependent on others, to make them be self - sufficient and to make them become integrated with the society in their life in the future. The achieving this goal is possible with determination of educational requirements of individual by taking into account what individual could do with the individual differences and the provision of appropriate training environments to the needs (Aruk, 2008, p. 57-58).

Educational requirements of mentally disabled individuals may vary depending on their some characteristics. Because the mentally disabled individuals are not a homogeneous group, they may differ greatly by their various characteristics. These differences may cause them to need more help of others in learning many skills that are necessary in the preparation of community life. Especially, mentally disabled children may have difficulty in learning the skills on their own or with minimal assistance, whereas other individuals learn these skills easily on their own or with minimal assistance (Aruk, 2008, p. 58).

Perception process of educable mentally disabled children functions more slowly than other children with same age. Therefore the transferring of information from short-termed memory to long - termed memory is hard. So the transferred information may be remembered more difficultly (Yılma & Uçan, 2014, p. 2).

Ozsoy tells that the difficulty had by mentally disabled children is about focusing the attention and maintaining it which are the main conditions of learning and remembering. He specifies that these children with lack of attention usually have difficulty in transferring the information from short-termed memory to long - termed memory. Additionally, Ozsoy who expresses that the mentally disabled children do not have any problems with long - termed memory mentions that these children may remember the information for a long time if they learn it well (Yılma & Uçan, 2014, p. 2).

Mentally disabled children usually have difficulty in transferring the coming information from short - termed memory to long - termed memory. When they can not transfer the coming information or stimulus to long - termed memory, the forgetting process occurs. In addition, after learning process occurs, there are some differences between them and their equals in the remembering process (Yılma & Uçan, 2014, p. 2).

The information transmitted to brain is transferred to short-termed memory after stored in sensory storage. According to the researches of mentally disabled students that are mentioned in this essay before, one of the causes of mental disability is improper handling of information or improper transferring of information to short - termed memory. Besides in the conversion of stimulus to information process, while short - termed memory keeps the information for a short time, that time in mentally disabled individuals is not enough for learning to occur. Even the information received from the sense organs is stored in sensory storage, transmitted to short - termed memory after processed properly, kept for a while, unless it can be transmitted to long - termed memory the learning process will not be done. This is the main cause of failed learning in mentally disabled individuals according to the researches mentioned in this essay before.

The stimulus given to individual during learning activities is stored in memory for a while. These stimuli form RNA through electrical and chemical flow in the short - termed memory cells. RNA is dissolved in 10 - 30 minutes unless it is transferred to long - termed memory. Therefore the cell reverts and becomes forgotten. This case the mentally disabled students face with during learning activities causes them to learn late or inability to learn at all.

The tackling of the proper transferring process of information to long - termed memory is the right approach as elaborating the event. Unless the information that is transferred from short - termed memory to long – termed memory is put in a systematic order, associated with other information, generalized, imagined or restructed through assimilation, that information will be forgotten and the learning process will not be done. The results received from the researches demonstrate that mentally disabled individuals can not put the information in a systematic order, can not associate the information with other information, and above all they can not generalize the information. This indicates that the long-termed memory in these individuals can not function properly.

Method

According to the learning theories, learning occurs when information is learned and stored by coding it as symbols systematically and meaningfully to the memory. If the information is imaged and made significant according to the mentally disabled individuals' interest, will, ability and qualification, this will become a method which accelerates learning and make it permanent. The phase of symbolizing the information may be variant. For instance, information can be turned into mental pictures and images or converted to verbal symbols and stored. By this means, coding, storing and restoration become further systematic. Nevertheless, the information come to be permanent, if it is arranged and diagramed within the

information's own dynamics rather than keeping the data on mind with short time periods, during the learning process.

It is thought to be better to exhibit concrete examples to students with mental handicap, in their educational activity, because of their short attention span and as they have problems with perceiving. Depending on this, it is important that visual and auditory presentations must be used to diversify in the educational activity (Ozak & Avcıoğlu, 2007, p. 4).

On this kind of individuals' education stage, as mentioned above, the materials for the method and technique of the education, are very important and must be support the process being used, for teaching to occur. Besides, the methods to be applied are formed as adding several sense organs to the teaching process. In this manner, students are stimulated visually, audial and tactile during the teaching process. Herewith, it is targeted to make both left and right cerebral lobes work together by stimulating. In such teaching process it is ensured to make stronger the connection between the students' synapses.

In new learnings, concrete visual actuators will be used and prevent students from coding and binding the information wrong and form incorrect diagrams.

Academically not only mental disabled individuals, but also normal individuals must start with learning reading and writing. This procedure occurs within predicted and targeted periods besides exceptions. However, this progression varies according to the kind and the scale of the handicap of the mental disabled individual.

Many methods are tested on reading and writing stage throughout the education of mental disabled individuals. The success of methods used, depends on factors like individual being ready, the academic performance, life at home and family, the environment of the education, qualifications of the teacher and individuals' interest, will, ability and proficiency to be harmonized with the method.

The study is configured and supported by considering the methods used before, like the Anchoring Method, one of the NLP techniques, and photographic memory technique from the memory techniques and being used actively through students reading and writing process. The teaching of reading and writing is special for each student according to their study system (as one subject).

The Steps of the Teaching Process:

1) Giving Visual Stimulus (Visual-Photographic Memory)
2) Changing the Visual Stimulus (Visual-Photographic Memory)
3) Introduction of the Sound (Auditory)
4) Anchorage of the Sound (Tactile)
5) Studying with Visuals Starting with or Containing the Sound
6) Writing the Sound
7) Text Study
8) Reading-Writing Stage

An example is given below to show how to teach a letter according to Reading – Writing Model of VAT (Visual – Audial – Tactile)

Teaching of the Letter "A" According to Constructed Representational Systems

Giving Visual Stimulus (Visual-Photographic Memory)

A colorful, live, bright and interesting visual should be selected considering the interest, desire, talent and competence of the student. In this study, photograph of a man wearing glasses who has a surprised facial expression is chosen.

Picture 2. *Surprised facial expression*

Visual is shown to the student and he/she is asked what he/she sees. Then, the reason of the surprised expression on the man's face is discussed together. The student is requested to make the surprised expression as in the photograph. During all these studies, it shouldn't be forgotten that the study should be forming a basis appropriate to teaching the letter "a". The most important thing at this stage is that, "aaaa" sound must be made when facial expression is done together to be a model for the student and the student should be requested to make the same sound. But the student shouldn't be told that he/she is being taught the letter "a".

Changing the Visual Stimulus (Visual-Photographic Memory)

Previously used visual is changed in a way that it contains the letter "a" which draws attention.

Picture 3. *Surprised facial expression contains the letter 'a'*

Afterwards, the student is asked about the differences between old and new visuals without showing the previous visual. If the student can't give the desired answer, the previous visual is shown and the student is demanded to find the difference between two pictures. When the student finds the difference, it is discussed and he/she is told that the letter on the glasses is "a".

Introduction of the Sound (Auditory)

After the letter "a" is demonstrated via the visual, sound is introduced to the student at this stage. The student is asked what kind of sound is made with the surprised expression and they are both done together with him/her. The student is shown letter "a" both as capital and small letter (A-a) independent of the visual and he/she is requested to tell which letter it is. Now, the student knows the letter "a" aurally.

Anchorage of the Sound (Tactile)

After the letter is taught to the student visually and aurally, appropriate anchorage of the letter "a" should be done. The photograph used at teaching stage is chosen already in a way to form a basis for anchorage. Anchor for the letter "a" is closing the mouth by hands while making the surprised expression and saying "aaaaa". The student should be told to make this act to remember when the letter "a" is forgotten.

Studying with Visuals Starting with or Containing the Sound

After the letter "a" is taught by auditory, visual and tactile methods, the student is shown several visuals starting with or containing the letter "a" to strengthen. The name of the visual must be written under it. The important thing is that the letter "a" should be written in red color to make it a distinctive stimulus. The student is asked what he/she sees on the visual. The answer received should be repeated emphasizing the letters "a" and the student is requested to repeat the name of the visual in same manner. After that, he/she is demanded to show letter/s on the visual's written name and to say one more time which letter it is/they are.

Picture 4. *Visuals starting with or containing the letter 'a'*

Writing the Sound

Until this stage, the student has been made comprehend the letter "a" well. However, just recognizing and vocalizing don't mean that he/she has learnt it completely. The student must know how to write the letter after the reading dimension. Visual used in second stage (with letter "a" on the frame of glasses) is sticked on to the student's notebook. Capital "A" and small "a" are written under the visual. We have 2 options here. If the student can't write the letter looking at the model, he/she is helped to write with dashed lines, partial or complete physical help if needed. If the student can already write looking at the model, he/she doesn't need help anyway. A crucial thing to consider is that the student should vocalize the letter at the end of each letter.

Text Study

At this stage, the student is given a text written in minimum 16 type size. He/she is requested to find letters "a" in the words, to circle them and vocalize the letter "a" while circling. At the end of this study, the student should be able to recognize and vocalize the letter "a" in the words.

Reading-Writing Stage

If we are teaching the letter "a" with the sound based teaching of reading and writing technique, the student should have learnt letters "e" and "l" before the letter "a". Reading exercises should be done writing words which start or end with

syllables containing “a” together with words and sentences having sounds “e, l, a”. Then these syllables, words and sentences should be written by the student looking at the model. At the next stage, dictation exercise should be done. At first step of dictation, a visual having its name written under it is shown. The student is asked to read what is written. Then he/she is demanded to write the word on to the notebook without looking at the model. At second step of dictation, a word is shown to the student as a model. The student is asked to read the word. After that, the model is withdrawn. He/she is asked to tell and write what he/she has read. At third step of dictation, the student is told a word. The student is requested first to repeat the word and then to write it on the notebook. If he/she cannot read or write the letter “a” during all these exercises, the student should be reminded of the clue to help him/her remember the letter.

This method is configured to realize these 8 stages during teaching of all other letters, supported by specific materials and tactile representations for each letter.

Discussion and Result

No obvious difference was found between teaching model based on representational systems and other methods or techniques for teaching how to read and write, when analyzed for its content as a method. Moreover, it almost uses same stages with other techniques and methods. However, the most important distinguishing characteristic is that it considers more than one sensory organ (visual, auditory, tactile) and uses anchorage technique of NLP methods by giving tactile representation for each letter. As known, imagining and linking information together makes learning easier and more permanent. With this technique each letter is imagined and memorability is maintained by relating it with an object, an incident or a case.

Aim for each individual requiring special education is that they can perform a skill independently as a result of learning. However, during the usage of this method, students are exposed to clue intensively. At the initial stages of learning process, intensive usage of clue contributes to learning. The clue is withdrawn during the actual start of real learning process and the student is demanded not to use the tactile representation during reading and writing. As a result, the student can read and write the taught letter.

Consequently: mentally retarded students are thought to achieve more efficient and persistent learning when reading - writing teaching model configured according to representational systems.

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