FOREIGN LANGUAGE LEARNING: THE USE OF IMAGES AND THE VISUAL SENSE

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Abstract: The purpose of this paper is to examine reasons for the efficacy of different methods of foreign language learning related to the use of images. The efficacy of exercises based on images, whether visualizing techniques, mnemonics or illustrations, has been proven effective for learners of every age and ability. This paper seeks to determine why image-based techniques are so effective. Are they effective only with visual learners, or are they effective with any type of learner? I shall examine briefly the way that humanity has cultivated visual memory since the beginning of recorded history. In parallel, the cognitive evolution of the young learners, and children generally, seems to start with image-based memory and thoughtwhich eventually progress to the use of symbols. Is using images in learning a new language something natural, explained by evolutionary psychology? Perhaps we should apply the methods that children use to visually explore and understand the world to help all people, regardless of age, to learn new languages.

Keywords: ELT, visual learners, cognitive psychology, mnemonics, evolutionary psychology.

I. INTRODUCTION

From the use of images to audio-visual materials, to mind-maps and diagrams for teaching the English tenses, teaching a foreign language always seems to be associated to some extent with a visual component. To determine the reason for thisassociation, we must consider humanity's history.

Written languages historically began with drawings of various objects in nature, first recognizable and then becoming more and more symbolic. From paintings in caves to cuneiform script, to Egyptian hieroglyphs, to Japanese syllabic pictograms, to the alphabet we use today for the English language, we notice a gradual global evolution from literal image to symbolic. When we look at any image, we associate it with a symbol, or with words. It all started with the writing systems of mankind.

Any language implies the existence of a certain culture and of a certain perception and understanding of the world. We can start talking about these just by looking at the respective language's alphabet. The way a language uses its alphabet can have deep connections with the cognition of its people. For example, the users of languages with pictograms as alphabet might have more developed visual thinking and memory, given the fact that they need to focus on the visual aspect of their alphabet.

The way the writing systems of mankind evolved, from using visual pictures towards using symbols that cannot be easily deciphered by someone who does not already know what they represent, parallels individual human language development, from childhood to maturity. We learn our first language by wishing to understand the world around us; as children we wish to understand the world and circumstances make it so that we come to associate objects from everyday life with sounds and then, gradually, with words. Cognitive researchers took this into account when they suggested that it can be very helpful to use images when learning a foreign language.

The impact of the image can thus be regarded as having a historical and developmental basis in the way we understand the world. Children's cognitive abilities are less advanced, and, because of this, teaching methods rely strongly on their visual sense to draw their attention and to make them remember and understand new words and phrases in a foreign language. The way we have learnt our first language can have an impact on the way we learn a foreign language. Even the way our senses have been exercised throughout history can affect the process of language learning. There can be even more to this when we consider that the sense humans usethe most is the visual sense: "research estimates that 80-85 percent of our perception, learning, cognition, and activities are mediated through vision."(Brainonline.org 2014 study) This research does not include the way impaired learners use their senses. The present paper also only takes into account the average learner. The way we understand the world parallels the way we come to gradually understand a new language.

Usually activities for beginners are designed mostly with the help of images, especially if the beginners are very young children and if they do not know how to write. Images are also used for pre-intermediate level students. However, the use of images is not restricted to children. Activities with images are also used for adult learners of a foreign language. There are warm-up activities which include the use of a picture which the students can use to make predictions about the lesson or text. There can also be activities for learning vocabulary which are easier to memorise if they are accompanied by images. There can also be speaking activities based on one or two images about which students can speculate or even debate.

Cognitive and evolutionary psychology research shows that man can learn more easily and memorize facts more efficiently by using thesense of sight. Even the earliest mnemonic techniques made use of visualization. However, not all learners are predominantly visual and most textbooks do not make use of only one sense. A classification of learners should be taken into account when understanding how language learning happens. Most learners combine visual memory skills with linguistic memory skills, and sometimes even motric skills. However, most of these skills have the sense of sight in common. Everything seems to be done in an effort to visualize the meaning of what we say in a foreign language in the same way that we visualize what we say in our own mother tongue.

II. EXPERIMENTAL DETAILS

2.1. Materials and Procedures

The importance of the part played by visualizing is demonstrated by cognitive psychology studies. Usually language learners need to link a word with an image, as demonstrated by the study below:

"Atesi" is "[…] a Vimmish word meaning 'thought'. Scientists from the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig have used Vimmish, an artificial language specifically developed for scientific research, to study how people can best memorise foreign-language terms. According to the researchers, it is easier to learn vocabulary if the brain can link a given word with different sensory perceptions. The motor system in the brain appears to be especially important: When someone not only hears vocabulary in a foreign language, but expresses it using gestures, they will be more likely to remember it. Also helpful, although to a slightly lesser extent, is learning with images that correspond to the word. Learning methods that involve several senses, and in particular those that use gestures, are therefore superior to those based only on listening or reading." (Max-Planck-Gesellschaft 2015)

This study shows that we need to relate a newly learned word in a foreign language to something in our surrounding world. What is more, we relate to language with our senses, just like we relate to anything in our surrounding reality. The main sense we use is our visual sense.

Experiments have shown that our brain itself works mainly visually:

"A large body of research indicates that visual cues help us to better retrieve and remember information. The research outcomes on visual learning make complete sense when you consider that our brain is mainly an image processor (much of our sensory cortex is devoted to vision), not a word processor. In fact, the part of the brain used to process words is quite small in comparison to the part that processes visual images." (Kouyoumdjian 2012)

Thus, the human brain is a visual processor of information. These researches support the idea that visual input is responsible for roughly 80% of the average person's ability to navigate his environment. According to the Bernstein Center for Visual Performance, "Visionis the dominant sense in learning;more than 80 percentofthe new information we acquire is handled by our visual system." Therefore, the techniques for foreign language learning should be based on visual material in order to be more efficient.

Studies have confirmed the need to relate abstract words to their concrete counterparts or visual images:

"Words are abstract and rather difficult for the brain to retain, whereas visuals are concrete and, as such, more easily remembered. […]

There are countless studies that have confirmed the power of visual imagery in learning. For instance, one study asked students to remember many groups of three words each, such as dog, bike, and street. Students who tried to remember the words by repeating them over and over again did poorly on recall. In comparison, students who made the effort to make visual associations with the three words, such as imagining a dog riding a bike down the street, had significantly better recall." (Kouyoumdjian 2012)

Considering that the purpose of words is to name reality, using images to learn them makes sense. The earlier we make the connection between the word and the image, the better.

The fact that words are abstract and need to be coupled with concrete visuals resonates with Saussure's two-part model of the sign. He claimed that the sign is made up by the signifier (the sign's form) and by the signified (the concept the sign represents).

The Semiotician Charles Peirce believed that we interpret signs because humans are meaning-makers (*Homo significans*). By signs, he meant anything from words to images to sounds and objects. We could say that foreign language learners use Semiotics to couple a word and an image in an echo of the meaning-making process reflected by the sign's construction. The visual component is necessary in the process of understanding something.It could be applied to the learning of a foreign word in a language, or to better memorization.

Visualizing techniques, such as mnemonics, also include the use of imagination rather than referring to an imageon paper. Studies have shown over time that these devices can be very efficient for remembering vocabulary items.

2.2. Mnemonics

The historical record shows the use of mnemonic techniques as early as 500 B.C. A

classification of mnemonic techniques ranges from linguistic techniques (peg word, key word), to spatial mnemonics (loci, spatial grouping, finger method), to visual mnemonics (pictures, visualization or imagery).

According to Thompson (1987:45), the loci method works in the following way: you imagine a familiar location (e.g. your room). You place the first vocabulary item you need to remember, for instance, on the table, then thesecond item in another location, for instance, nextto the chair, etc. You will need to recall the items in the correct order, and for this you will take animaginary walk through the familiar place, finding the items in the places you left them.

Even if you use the peg word method, with rhyming words, such as *two is shoe*, *three is tree*, some visualization is needed. The associations need to be imaginative and striking enough to be remembered.

The first mention of the loci method was in 500 B.C. when Simonides used it to remember the guests at a banquet after the building walls collapsed on them. We see how it started in a directly and literarily visual way and has since become more of an intellectual technique, especially in the use of foreign language learning.

III. RESULTS AND DISCUSSION

3.1. The Human Mind as VisualProcessor

Once we understand that the human mind is mainly doing visual processing, we can reflect on the types of learners that have been identified. Haynes has identified auditory learners, tactile learners, kinesthetic learners, global learners, analytical learners, and visual learners. Yet, if we think more about the definition of these types, we realize that, for instance, the average auditory learner still needs to visualize the meaning of the words, even if helearns mainly through speaking and listening. Atactile learner might use board games, yet once again the visual component is not to be ignored. Someone who learns a foreign language through movement will find thatit is not without the visual component. When a global learner interacts with the others, he placeshimself visually in a communicative situation similar to those in real-life. Analytical learners prefer to focus on details yet there is a visualizing part in their activities as well.

One of the questions meant for further investigation into the human memory is: are foreign language learning and using images part of our historical evolution? Could we apply an evolutionary psychology perspective to our tendency toward the visual in learning a foreign language?

3.2. The Need for Art inEvolutionary Psychology

Even our need for art could be explained by means of evolutionary psychology if we think of the first historical writing methods, beginning with paintings and then progressing to all sorts of symbols. Our need for telling stories (stories are coupled with images when we are given activities to use grammatical or vocabulary structures when we learn a foreign language) may also have evolutionary origins, as storytelling can be usedto preserve culture and to communicate over the ages. Another theory is that art leads to greater intelligence, which obviously brings evolutionary benefits.

Throughout the history of humankind we have been evolving as visual learners. If we understand ourselves as such, through cognitive, neurological, psychological, historical, and evolutionary proofs, then we set the basis for efficient, science-based and scientifically proven methods for learning any foreign language.

Our need for art as a driving force for knowledge seems to explain the rise in popularity of creative methods for foreign language teaching. The advantages of creativity in foreign language learning given by the High Education Academy seem to be in line with evolutionary purposes: they relate it to our need to adapt to a changing world. Margaret Anne Clark summarizes this idea in her paper *Creativity in Modern Foreign Languages Teaching and Learning*: "We all need to be creative (inventive/adaptive) in a world that is constantly changing: a world that also requires us to change/adapt." A foreign language learner gets to adapt to a new worldview, but also to a new way of memorizing new words and dealing with them. In order to do this, any learner will need effective techniques to adjust to the new reality. An example of connecting art and the teaching of foreign languages is a workshop organized on April 5, 2014, by Ryan Education Centre, titled *Teacher Workshop: Art and Language: Visual Literacy and Foreign Language Learners*. This workshop is intended to help teachers realize a connection between language learning and engaging their students with activities related to works of art in museums. This workshop relies on the innate, evolutionary need of the learners to be creative in order to adapt to new circumstances, and on the even more powerful impact of learning on memory. In order for learning to be effective, the students are placed, more or less imaginarily, in a different environment where they will need to use survival strategies to cope with changes and with the tasks they will be given.

CONCLUSIONS

The following data offers support for the effectiveness of visual methods for foreign language learning:

1. The parallel between cognitive development from child to adult in understanding the world and the development of understanding in thinking in a foreign language, together with the development of the writing systems from visual to symbolic in humanity's history;

2. The evidence shown that the human brain mainly processes information visually, which explains whyvisual material leads to more efficient memorization;
3. The way mnemonic techniques have been used from early days in history shows that we can learn how to view the world in a foreign language and culture mainly through visual or visualization techniques;
4. Linguistic theories of the sign, such as that of Saussure, show that we always pair a sound with a mental, visual image – this works for all languages. Foreign language learning techniques should take this into account when devising memorization techniques.
5. Man's natural inclination towards art as a means of interpreting and understanding a new reality in order to better adapt explains the new interest in using art and creativity in foreign language learning methods. We could speculate that it is because of this inborn inclination that learners feel the need to create their own symbols by associating new vocabulary items with images or with similar words in their own mother tongues.

However efficient these visualization techniques can prove to be, they can only help foreign language learners in some areas. Learning new words, for example, can become more efficient, yet a language has other areas where we need to improve our skills. No language can be mastered with only one skill. This is why language proficiency tests such as the Cambridge or the TOEFL include testing of reading, listening, speaking, vocabulary, grammar, and writing.Most foreign language learning textbooks take all these skills into account for activity design. While visual and visualization techniques can be very helpful and can motivate learners and improve their performance, they are not enough in themselves.

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