Linguistic Reflexes

A former mentor of mine once told me of a challenge faced by his uncle while serving with the Navy in the Pacific during World War II. It seems that the training of new sailors assigned to the task of sending and transcribing messages via Morse Code was not progressing well. The trainees could not keep up with the pace of the messages being transmitted by crewmen experienced with the code. Wisely, it was determined that the fault lay not in some deficiency in the trainees, but rather in the training methods being employed. They decided to scrap the traditional methods intended to help the trainees memorize the chart containing the key for unlocking the meaning of the sequences of dots and dashes corresponding to letters, numbers and punctuation. Instead, they steadily accelerated the trainees' exposure to the code until there was no time for the novices to consult the chart. Rather, they had to transcribe, and eventually send code without a conscious analysis of the equivalences between the dots and dashes and their equivalent meanings - as a sort of reflex action.

Out of respect for the truth, other than what I have already told you, I honestly do not know any more details of the initial methods that resulted in failure, nor those of the modified approach that brought success. Nonetheless, allow me to hypothesize as to what they might have been and then show what these two approaches have in common with the teaching of a foreign language.

I would expect that the Navy initially provided these trainees with the chart you see to the right, containing 41 symbols (26 letters, 5 punctuation marks and symbols and 10 numbers) and their corresponding sequences of dots and dashes. They probably told them that they had a certain number of days, probably a week or less, within which to memorize the dots and dashes corresponding to each character and then gave them a series of exercises to perform to help them "learn" the chart. Then, in addition to reproducing

Chart presenting the 41 elements of the International Morse Code

the chart's data, by the second test, they were probably required to generate and to transcribe a certain message. By the third test, they may have had to perform the same two functions, but with an added time limitation. I imagine that it would have been at that point that their instructor's patience would have begun wearing thin.

Knowing no more than the fact that the element of acceleration was the primary factor in turning their failures into successes, I will again hypothesize as to what must have taken place. Rather than presenting them with a chart, I imagine that they were given no more

than 5 of those characters at a time, which would have been drilled so thoroughly that they could easily recognize and produce the proper sequences of such a limited number of patterns. Any messages they would have been given to decode or encode would have been extremely simple, only being composed of those 5 characters. They would have had no need for the International Morse Code chart, which previously they had regularly glanced at to ensure that no mistakes were being made and yet which had been no better than a crutch impeding their development of a reflex response to the patterns of dots and dashes they were hearing or seeking to create.

It was at this point that I expect the element of acceleration was introduced. Before the addition to their repertoire of new characters and sequences, I expect their exposure to these same 5 characters was gradually accelerated until its pace reached the point where, not only did they lack the time to consult any chart (if they even had one), but there was insufficient time to consciously think of the character equivalents of the patterns of dots and dashes they were hearing. In other words, they were pushed, through repetition and acceleration, to transcribe each character as a reflex response to the stimuli received.

Speaking of decoding, it's now time to decode what all of this has to do with world language instruction, though I tend to think you have already seen the parallels. Exposing the sailors to one particular pattern of dots and dashes, while simultaneously showing them the image of the letter they represent, corresponds to the stage of symbolization. By contrast, giving them 41 characters to memorize, while supplying them with a chart to which they could regularly turn, is equivalent to what language teachers do when they give their students a written list of 20 verbs to learn within a week and a packet of written exercises to perform. Having trained their students to study the spellings of those verbs at great length, which inevitably allowed the students to form word associations with English for the sake of retention, such teachers would have ensured that their students would never be able to employ those verbs in authentic oral communication, just like the ill-trained sailors who were initially incapable of transcribing code at the rate required by authentic Morse code transmission.

Here is how acceleration is used in the ULAT. The students are shown a video composed of individual still images, usually corresponding to new vocabulary, or of multiple images per screen when drilling a particular sentence structure. In the case of a single image per screen, it either is taken from the key moment in a video clip that best represents the meaning of a word or its meaning may be so clear as to not require a preceding video, such as is the case with a noun or adjective. Videos that aim at drilling a particular sentence structure are composed of multiple images placed side by side on the same screen. After showing each screen in silence, during which time the students say the word or make the statement, the video's narrator provides the correct answer just before the video moves on to the next screen. The duration of each screen is gradually reduced, thus accelerating the video and obliging the student to respond so rapidly as to remove any possibility that they might be thinking in their native language and so as to train them to say the word or form their statement as a reflex response to the stimuli provided.

Click above to see a gradually accelerating video in French which trains students to say the first 10 of the 60 most commonly used verbs as a reflex response to the visual stimuli, without recourse to their native language and without envisioning printed text. The verbs' meaning has already been made clear in previous exercises via short video clips of a person performing the actions. After this point, gestures representing these verbs were taught to the students and a key still image was extracted from the video of each gesture. Thereafter, the still images, such as you see in this video, are used to refer to their corresponding verbs and are placed in series with others to form complete sentences. (After watching the video, use the back arrow key to return to this document.)
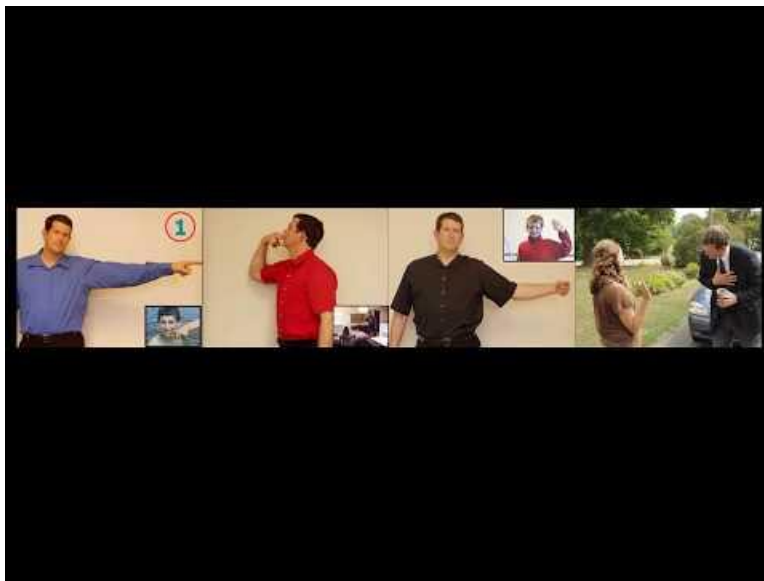
The second video, this time in Spanish, drills the identity and position of indirect object pronouns. Such videos are but a crude attempt at imitating the unspeakably rapid flow

of symbolic thought that occurs in the incredible human brain and which enables verbal communication. Yet, such videos are far, far superior to forms of instruction that make no such audacious attempt and which depend upon printed text and recourse to the students' native language to convey meaning. (After watching the video, use the back arrow key to return to this document.)

Presenting students with the meaning of words in a sensory-laden manner, by means of mime, moving and still images, drawings, sound, etc., without any recourse to the written word or to the students' native language, allows the process of symbolization to take place. Following up on this introduction with a gradually accelerated exposure to individual words or to a verb tense or particular sentence structure, develops what I call *linguistic reflexes* and paves the way to genuine fluency.

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<div align="center">Language Teachers' Topics for Reflection</div>

1. Once again, what is symbolization?
2. How do you know that it must take place in natural native language learning?
3. How, therefore, does the selection of a key still image from a video clip resemble symbolization?
4. Why does a two-year-old speak more haltingly than an adult?
5. Is symbolization an instantaneous event or an on-going process?
6. How does the use of an accelerated exposure to symbolic images approximate the natural process by which fluency is attained?
7. What benefits are derived from accelerating a student's exposure to symbolic images? (Be more specific than merely saying, "It increases fluency." Explain how it accomplishes this.)

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NEXT CHAPTER

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