The Cartographic Method – a Possible Perspective in Adult Education

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Abstract

The need of an overview is often necessary in the educative process, regardless of the field. We propose in this paper a new approach in the study of foreign languages (but applicable as well to other fields of education). Hence we discuss a few specific prospects of implementing this four step method in foreign language learning for adults, by treating the learning process as a “recursive looping” (Wolfgang Iser) from particular to general and back, and by emphasizing the importance of the global visualization as the key instrument, which plays an essential role in the learning technique we propose.

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1. Introduction (Theoretical Aspects)

The use of visual representations is a well-known procedure in teaching any given field that can ban be subjected to a structuring process. Operating with tables/ diagrams/ animated presentations makes the content more understandable, as it makes it that much easier for the learner to observe concepts and values in direct relation with one another and each component placed in its “cell”, i.e. in its corresponding place of the paradigm. This is valid whether we talk about objective structures, like the Mendeleev table, or subjective ones, like, for example, the

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costume, in foreign language education, to set the genres in a certain order: **masculine – feminine – neuter** or, depending on the language, **masculine – neuter – feminine**, when teaching/ learning the declination of nouns (substantives, adjectives, pronouns, numerals and/ or other adjective-like forms, such as participles). Another eloquent example, also from the field of foreign languages, could be the customary practice of verb conjugation using the following paradigm: *I – you (singular) – he/she – we – you (plural) – they [+/− courtesy pronouns].*

In this paper we intend to review the teaching/learning method from the point of view of visibility. We emphasize here the notion of perspective in adult education, using the foreign language learning as a case study. In order to better understand the special role the “visual method” plays in both teaching and learning foreign languages (but not exclusively the chosen field), we begin by setting the theoretical platform, which involves concepts like adult education and the principles of adult education, among which the most important we consider to be the principle of transparency.

### 1.1. Adult Education – Conceptual Delimitations

The anthropocentric point of view regards human being from the perspective of universal and invariable human nature, which needs to be cultivated and developed through its potentialities. There are also other approaches, like, for instance, the sociological one, that prepares the individual to play various roles in society, thus disregarding the specificity of the human being. A somehow equilibrated definition offers Ioan Nicola (1994), when pleading for a combined approach: education is a complex social activity that is carried through an endless chain of actions performed in a conscious, systematic and organized manner, at any given time a subject – individual or collective – acting over an object – individual or collective – in order to transform the latter in a creative and active personality, suitable both to present and future socio-historical conditions, as to his/ her individual bio-psychological potential.

There were many attempts to define education, among which we recall some of the best known names – J. Piaget, A. Quellet, P.A. Osterrieth, N. Vintanu etc., but basically it becomes the continuous reconstruction of an interior model of knowledge, appreciation and action, relative to the world in which we are living. It is also a humanizing process, in which individuals acquire new human qualities, with the help of which they can set a relatively stable equilibrium with the social, cultural, professional and natural environment.

Before discussing the notion of adult psycho-pedagogy, we must first examine the conceptual differences between the pre-adult and the adult state at a cognitive level. The studies that led to the development theories generally have as subjects children or teenagers. But twentieth century models and studies have shown that adulthood is not equal with stagnation, but there are quantitative and qualitative accumulations. While some cognitive-behavioral development theoreticians (such as Kolberg, Piaget) indicate that cognitive development ends in adolescence, others state that cognitive capacities continue to develop in the adulthood (Baltes, Loubovie-Verif, Perry, Schaie, Troumin), focusing their research on the post-formal operations and on the idea of wisdom as a construct of adult’s cognition (Sion, 2003). Among the specialists that gave thought and wrote about the very concept of adult education, we name here A. Pfinis, C. Bogrard, H.S. Bhola, or the Rumanian theoreticians A. Neculau, N. Vintanu, A. Munteanu and many others.

Given the increasing complexity and novelty of the contributing factors, the adult education has proven many times difficult to define, as the different attempts could have been considered reductionist and unilateral. Nevertheless, we can distinguish two main tendencies: on one hand, adult education is regarded from the perspective of the individual, being defined as an attempt to answer all intellectual and spiritual necessities a man or a woman could feel at any given moment of their life, while aiming at perfecting and improving human personality, and, on the other hand, from the perspective of society, looking to become improved through and as a result of adult educative process, seen as an action the finality of which is to prepare the individual to act upon the environment in order to transform it and to make the life more human for him and for others.

The notion of adult education is quite recent although, historically speaking, it was firstly used relative to the foundation of the Committee for Adult Education in 1919. After centuries of believing that education pertains only to the first part of man’s life, meaning childhood, the concept knows huge changes (felt even today), generated by world scaled phenomena like Industrial Revolution and other such transformations in the social life, like the strong development of university education at the end of the past century and the beginning of the twentieth. The demand for education of the adults, irrespective to age or socio-professional category, and the complementary educational
offer have amplified on one hand because of the solicitation of social, scientific and technological dynamic and, on the other hand, because of international educational policies, focused on carrying into effect certain principles of educational philosophy, as well as the respect for equality in education chances, democracy and humanism, special measures for the disadvantaged, world peace and tolerance, etc. (Sava, 2005)

Inherent to the status of adult there are numerous valuations and requirements which do have considerable significance for the adult as a participant in education and which do not apply in anything like the same degree to children. (Paterson, 2010) By comparing the adult learning with the teenage learning, it shows what the process of learning gains in the adult period, comparative to the teenage learning process. (Şchiopu, Verza, 1997): cohesion, the ability to combine concrete/abstract analysis forms, the capacity to extract the essential ideas, the faster understanding of the semnificative, a pragmatic critique of the new, a clear attitude of refusal of what isn’t clear, the need for precision, the independent assessment of the information sources, the requirement of applicability and practice, the necessity to complete the information with skills, techniques, processes required by the (studied) field (Sion, 2003).

1.2. The Basic Principles of Adult Learning

It is true that both the child and the adult have a fundamentally common trait: learning; but the differences are essential: in the case of young learners, the learning process is similar with accumulating and structuring; in case of the adult, learning means deepening, restructuring, creation. Because the principles are understood mainly as rules and laws with a general content, the adult is not subjected to the same treatment as the children. In adult education, learning remains the basic activity that involves active conscious participation, so passivity and school-like methods are futile, especially given the modified conditions in which the learning process takes place, but also due to the essential characteristics of adult personalities. But what are the basic principles of adult learning, which separate them from the young education processes? From the literature we only mention a few: the orientation towards participants, establishing clear roles in communication, a clear evaluation of adult’s needs, mutual respect, development of healthy learning relations, feed-back (offer and request), a feeling of safety, accent on experience, practice, team-work, the transparency of learning’s objective, the implication of the adult in the learning process. Of all, we chose to take a closer look on the last two, which represent the essence of the method we reiterate here.

2. The Principle of Transparency

According to Vintanu (1998), the curb of experience includes four steps: experimentation, reflection, concluding and, finally, applying the new knowledge and abilities. At this point, we respectfully disagree. As we intend to show in the following, this curve, especially associated with adult education, lacks one step, the first step, which should constitute the basis for the other four: pre-visualization of the objective, according to the principle of transparency. In fact, this step should also include a pre-, during- and post-visualization of the objective. Concretely, this can be achieved classically (paper-based), electronically (computer-based), or both. Pre- and in-service language teachers should clearly learn about computer use. (Egbert, 2002), referring to CALL (Computer assisted Language Learning). There is a wide range of on-line applications which are already available for use in the foreign language class. These include dictionaries and encyclopaedias, links for teachers, chat-rooms, pronunciation tutors, grammar and vocabulary quizzes, games and puzzles, literary extracts. (Lee, 2000) Literature in this field (i.e. computer based technology for foreign languages studies) is extensive, but we are only interested here in the relation between general and particular, as means for comprehensive and ‘in context’-type of learning. The transparency we discuss here should apply to general domains, categories and sub-categories that can be subjected to classification, conceptualization, stratification and in which, ultimately, the particular notions can be subjected to association inside the parameters of a paradigm. Let’s analyze, for instance, the case of foreign languages study. In this paper we will make abstraction of the typical methods of teaching involving exercises, memorizing etc., which we consider to be a given in a teaching-learning situation. We will solely focus on what brings new the concrete implementing of the transparency principle in adult education forms. As we have said, elements that cannot be subjected to classification cannot be subjected to visualization as well – although, up to a point, it could also be
possible for them. Taking, for instance, the grammar, the structural part of a language, we can ascertain that should be the most easy to configure it in an all-visible table/map/diagram or any other form necessary or suitable, depending on the case. In the following, we will illustrate the proposed technique with tabular examples of various grammatical aspects of German language.

For instance, in Figure 1 we present a table containing an exceptional form of declination for certain categories of nouns in German language. This is a demonstration of how theory can be illustrated. An advised “reader” (in this case the learner), by “reading” and understanding the given “map”, would be capable to correctly place any given grammatical situation into one of these (let’s call them “cells”), and the other way around: using the table, the learner would be capable to correctly employ a given construction in a certain linguistic situation.

The two examples given here are focused on specific problems of German language grammar. At a bigger scale, it is possible to create a more comprehensive view of fields that apparently aren’t capable of being subjected to the same general perspective as other fields like, for instance, natural sciences, chemistry, geography etc., but for lack of space we only employ here specific, limited concepts.

The given tables were elaborated in Microsoft Excel Worksheet, but the form of presentation mustn’t necessary be tabular. It can vary from drawings and diagrams to animated forms, using programs like OpenOffice, Impress, Kpresenter, Macromedia Director, SlideRocket, Brainshark etc. Such exposés can be classic (paper based) or dynamic (computer-based), but the principles I insist upon are the same:

- The object presentation, whether static (as the models shown here) or dynamic (animated computer-based) must show the so called “big picture” of the field newly explored by the learner. In other words, must be comprehensive, to ensure the transparency of the teaching–learning process;
- The objectives and the steps to follow must be made known from the beginning of the course;
- The learners must be allowed permanent access to this information, during the entire time of the course, and even after.

<table>
<thead>
<tr>
<th>Kategorien</th>
<th>Unterkategorien</th>
<th>Beispiele</th>
<th>N-Deklation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maskuline Nomen mit –e am Ende des Wortes</td>
<td>Personen</td>
<td>der Kunde (m. sing.), der Junge (m. sing.), der Kollege (m. sing.), der Neffe (m. plur.), der Zeuge (m. plur.)</td>
<td>N der(e) ein(e) Kunde(n)</td>
</tr>
<tr>
<td></td>
<td>Nationale</td>
<td>der Chaime, der Franko, der Griech, der Pol des Rasse</td>
<td>Akk der –e eines Kunden</td>
</tr>
<tr>
<td></td>
<td>Tiere</td>
<td>der Affe (m. sing.), der Hase (m. sing.), der Löwe (m. sing.), der Ratte (m. sing.)</td>
<td>D der –en Kunden</td>
</tr>
<tr>
<td></td>
<td>Ausnahme</td>
<td>Diese Nomen bekommen –e im Genitiv:</td>
<td>G der –e Kunden</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- der Buchstabe (m. sing.) → des Buchstabers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- der Friede (m. sing.) → des Friedens</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- der Gedanke (m. sing.) → des Gedankens</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- der Gläube (m. sing.) → des Glaubens</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- der Name (m. sing.) → des Namens</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- der Wille (m. sing.) → des Willens</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- (i) der Herz (m. sing.) → des Herzens</td>
<td></td>
</tr>
<tr>
<td>Alle maskuline Nomen aus dem Lateinischen und Griechischen mit den Endungen:</td>
<td>-end/-ent</td>
<td>der Doktorand, der Dozent, der Elefant</td>
<td>N der Name</td>
</tr>
<tr>
<td></td>
<td>-ist</td>
<td>der Diplomat, der Demokrat, der Diplomat</td>
<td>Akk der Namen</td>
</tr>
<tr>
<td></td>
<td>-ent</td>
<td>der Professor, der Student, der Referent</td>
<td>Akk der Namen</td>
</tr>
<tr>
<td></td>
<td>-ist</td>
<td>der Idealist, der Journalist, der Terrorist</td>
<td>Akk der Namen</td>
</tr>
<tr>
<td></td>
<td>-age</td>
<td>der Biologe, der Pädagoge, der Psychologe</td>
<td>G des Namens</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- der Arzt</td>
<td>N der Namen</td>
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<td></td>
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<td>- der Arzt</td>
<td>Akk der Namen</td>
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<td></td>
<td></td>
<td>- der Philosoph</td>
<td>G des Namens</td>
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<td>- der Okonom</td>
<td>N der Namen</td>
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<td></td>
<td></td>
<td>- der Fotograf</td>
<td>Akk der Namen</td>
</tr>
<tr>
<td></td>
<td>Andere</td>
<td>- der Herr (m. sing.), der Mensch (m. sing.)</td>
<td>D der Namen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- der Herr (m. sing.), der Mensch (m. sing.)</td>
<td>G des Namens</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- der Nachbar (m. sing.), der Ungar (m. sing.)</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 1. The n-declination category for German nouns
We have here discussed the prospect of an organized learning process, of notions that can be subjected to classifications, such as the grammatical paradigm (the system) of a language. But what about the notions that cannot be unified in bigger categories? How do we teach/learn them? This would be the subject of another paper. Suffice to say now that even such notions can be eventually grouped to facilitate the learning process, as it is well known that the easiest and shortest way to apprehend something is by learning it in context. In the case of languages, those elements that pose such problems are simply the words, but there are also methods for specialized learning. One would be to group them in semantic fields or – regarding morphology – to lump them in structural groups, for instance using the criteria of affixes (prefixes and suffixes) and their meaning.

2.1. The Relation Adult Learner – Object of Learning

A second principle we wish to discuss in this paper deals with the relation adult learner – object of learning, and it actually represents only an extension of the previous idea: the transparency of the learning process.

Nicolae Vintanu (1998) offers a scheme in which he summarizes the main known teaching methods according to the level of implication required by the students. According to him, the lecture, the dissertation, the panel method, the symposium and the demonstrative exercises are the ones requiring the lowest degree of implication, while the case studies, the simulations, the exercises, the experiments, problem solving and applications involve much more the learner into the learning process. In the middle are the group discussions, the observations, the reflexive practice, the on-line forums, the e-mail, and the audio-video conferences. So, to be clear, this paper does not discuss the learner-teacher relation, but the relation between the learner and the object of study. And we absolutely do not intent to dismiss anything regarding the teaching process. On the contrary, using common, known methods, such as tables, images, diagrams, dynamic/animated computer presentations, in a word map-like methods, we intend to slightly modify the perspective concerning the principles of adult education, which many times remain just that: principles, as the people in the teaching system are often reluctant to trust the learners with their knowledge about the studied object.
3. Our Proposal: The Cartographic Method combined with the Principle of “Recursive Looping”

3.1. The description of the method

Using the teaching-learning of languages as a study case in the larger frame of adult education, we propose in this paper an optimization method based on transparency and visibility, considered as inversely proportional to the principles and practices of children education. Thus, we conceive here a four steps method, in which classical techniques of teaching-learning are combined with a full disclosure and permanent access (for the learner) to the object of study in his entirety, organized in a map-like form (such as a table, diagram, or electronically, as an animated presentation). Keeping constantly in mind that for a learner, in many cases, knowing the subject and the structure of the studied object is just as important as learning their content bit by bit, we see this method as a constant and structured swinging between the general and the particular, between the whole picture and the detail, coordinated by the teacher in order to ensure the best degree of understanding and thus the best results in this complex process of giving and receiving education. The method we propose is based on the previously mentioned and analyzed principle of transparence, in which adults become aware of their process: the steps they need to take, their knowledge and their un-knowledge, through a graphic visualization of the object of study in its entirety. This visualization can be general or modular. In this context, by general visualization we understand the detailing of the studied domain framework, while a modular visualization is a presentation of a specific branch of the given domain, using visual instruments like the tables shown in this paper. This method implies four basic steps:

Step 1
At the beginning of a new course or a scholarly year, the designated teacher/lecturer should explain largely to his students what are the objectives of the course, using a general visualization method, what are the origins, the roots of the studied field, where precisely it fits in and which are the ramifications to be explored in the given course, all accompanied by brief explanations of what each of the sub-fields represent for the particular science studied.

Step 2
The learners receive an individual general visualization scheme, (given the size of such a scheme, it is advisable – but not mandatory – that this is done using an electronic platform, which can expand indefinitely). Afterwards, during the course, the learners will be provided with modular visualization schemes, that will ensure a proper and detailed dissemination of information.

Step 3
During the entire course (and after), the learners are encouraged to visibly modify – manually or electronically, depending on the case – the knowledge areas already covered, leaving in white the knowledge areas yet to be taught/learned. Furthermore, each particular section should contain, apart from the basic information, a small cell, in which the learner can write the evaluation score for that particular segment of knowledge, so he can later return and improve his score. This particular step is oriented towards fulfilling a so-called “collective instinct”. Elizabeth Howe (1906) asks herself if it is not possible, since this habit [collecting] is almost universal, to develop this instinct along certain lines in school? Going one step further, since this “instinct” rarely leaves the adult – or if it does, it certainly remains “buried” in his subconscious mind, waiting to come out – why not explore this possibility and make use of it in a meaningful and optimized way, while making the learning more fun in the process?

Step 4
The “Recursive looping” is actually a cybernetic term, “borrowed” by the German literary scholar Wolfgang Iser in his paper “On Translatability”, in which he proposes a cybernetic model of cultural understanding based on recursive looping, in which he explains the fact that an intra-linguistic translation essentially represents a negotiation. He defines a ‘cultural meeting’ as a collision of cultures that not to understand the other, but to ‘tame’ it, according to its own set of values, through two main processes: assimilation and appropriation. So, to convert the unknown, the ‘other’, into something familiar, requires a continuous and recursive flux: For a foreign culture to become comprehensible, a change of attitude toward the familiar one now being penetrated by something other is unavoidable. The recursive looping organizes such a transfer by processing the information received, which is to be gauged by the correction of what the output was meant to achieve. (Budick, Iser, 1996). Based on this concept, analogically we can interpret the process of teaching-learning as a typical “recursive looping” situation, the purpose of which is to gradually reduce the distance between the learner and what is meant to learn.
3.2. Possible uses

As previously stated, the method we propose can have various applications especially in those fields of study that can be subjected to classification. Nowadays, almost every domain is suitable for this, including humanist fields like philosophy or literature. For instance, one of the greatest applications could be in the historical field. As history is sometimes difficult to perceive as it is a sequential science (as opposed to geography, which is simultaneous), it is best understood when visualized. For this purpose we can put to use the proposed method as a cybernetic model of learning. A designated person (teacher, programmer etc.) would create a program which illustrates the sequential and parallel evolution in time, using overlapping mapping processes. Thus students of all these different fields and others will be able to access the given platform and to understand their studied field in context.

3.3. Advantages of the proposed method

The most obvious advantage would be for the learner, the possibility to rightly understand the scheme of the studied field, the flow of the events (if we are applying the method to a temporal science), the framing of one or more elements in the general design of the domain, in other words it will help him better understand and visualize "the big picture". Another advantage for the learner will constitute the possibility to always easily return to elements that were forgotten, as it is far easier to visualize one map or one program, than to search in a multiple pages book for a certain unclear detail, especially in a world that is moving faster than any time ever before.

On the other hand, it would also be easier for the teacher to explain his matter. For what takes many hours to explain in the classical teaching process can be reduced a lot by concentrating the theme into one big design scheme. The teacher’s job would be simplified, as the theoretical part would become self-explanatory, thus he will only have to deal with the practical assimilation of the given field.

Overall, the given method, if correctly and fairly applied, could very much simplify the teaching-learning process, through a synthesis-analysis-(re-)synthesis paradigm. This is translated as follows: before receiving the ample description of the studied field, learners will be provided with a full-scale (let’s call it image) of the field. This would be the first synthesis part. Afterwards, during the entire course, the teacher will present the various aspects of the relation between the entire and the different studied parts, giving the learner the possibility to go back and forth in the so called ‘recursive looping’ process, in order to understand not only the various particular aspects, but also the relation between them. At the end, the learner will be given the chance to reevaluate the synthetic scheme, in order to critically ascertain its validity and “possess” the studied domain or subdomain from the knowledgeable point of view.

3.4. Possible objections

It may be objected that the procedure presented here contains a risk factor for teachers, who, by giving the learners “on the table”, from the very beginning, the object of study, they might lose interest or choose to ignore the teaching factor and explore the domain by themselves. And how adult learning, unlike young learning system, is mostly seen as a contractual form of study, often involving financial aspects, it is easy to see how teachers are predisposed to such a concern. It is true that a small group of learners would act upon this opportunity and choose to “study home”, but as many experienced teachers would say, their results would be far from satisfactory. Furthermore, the real act of teaching is not the simple exposure of the studied object, but the sustained activity, with patience and determination, to explain, exercise, view and review each time necessary the particular aspects of that particular object they want to acquire, namely to understand, in order to ‘possess’ the knowledge. This continuous effort cannot be replaced, not even by the student himself, and has nothing to do with the learner knowing or not knowing the object of study in his entirety. On the other hand, from the point of view of a student that is engaged and committed to his study activity, it could mean a great motivation to constantly be able to monitor their progress and fill in the gaps with everyday effort and devotion towards studying.
4. Conclusions

In this paper we focused on the role of transparence in the adult education process, but transparency alone is not enough to ensure the proper understanding and assimilation of the field to be studied. The actual learning process, assisted by the teacher, is perceived a form of “recursive looping”, in the category of which we can include almost all classical teaching methods that presume interaction between the student and the teacher, lecturing, feed-back and, most of all, lots and lots of practice. Our intention in this paper is to optimize the learning process, based on the psychological notion of visual memory, which has proven to be in the majority of the cases the best way to facilitate, on one hand, the understanding of the subject and the relations involved and, on the other, its assimilation and memorizing, without diminishing for one moment the attribution and role of the teacher. Thus, in our vision, the teacher becomes more a “guide” than a “intermediary”, who’s main role is to put the learner in touch with his/her object of study, both at a global and a particular level, to ensure the proper processing of the information through the classical teaching instruments and to be prepared at any given moment to face the object-related questions of the learners, according to the previously stated principle of transparency.

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