# THE TREATMENT OF MODELS IN INTERNATIONAL ENGLISH DIDACTICS: A REDUCTIVE EPISTEMOLOGICAL CONCEPTION OF THE DISCIPLINE. THE EXAMPLE OF THE PPP "MODEL" (PRESENTATION, PRACTICE, PRODUCTION). ESSAY

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## THE TREATMENT OF "MODELS IN INTERNATIONAL ENGLISH DIDACTICS: A REDUCTIVE EPISTEMOLOGICAL CONCEPTION OF THE DISCIPLINE. THE EXAMPLE OF THE PPP "MODEL" (*PRESENTATION, PRACTICE, PRODUCTION*). ESSAY

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#### Abstract

This essay takes the example of the PPP model (Presentation - Practice - Production) as it has been used for decades in international English didactics, to criticize a certain conception of "models", and, beyond that, a certain conception of the epistemology of the discipline "didactics of languages and cultures". The essay begins with a long first part in which I present the opposition between "theories" and "models", as well as the different forms, functions and types of models in didactics that must be taken into account in order to apprehend and manage the complexity of the discipline. In the second part, I present the different reductions of this complexity that many specialists of international English didactics make in their use of the PPP model. They conceive of the model as a product based on a theory of acquisition -hence the recurrent debate among them between the proponents of this PPP and those of the TBL (Task-Based Learning) model- and not, as the complexity of the discipline would require, as a process of "praxeologization" in the course of which this model is tested, explored and manipulated by means of variations both internally (modifications, additions) and externally (in combination or articulation with other models. When we look at the results of the analyses, the medical diagnosis is easy to make: many specialists in international English didactics are affected by a particularly virulent form of applicationism. And the prescription for their treatment seems just as easy to write: "In-depth reflection sessions on the epistemology of the discipline 'didactics of languages and cultures' until the PPP (or PBL) symptom disappears, and the complexity paradigm appears"...

#### Résumé

Cet essai prend l'exemple du modèle PPP (*Présentation – Practique – Production*) tel qu'il est utilisé depuis des décennies en didactique internationale de l'anglais, pour y critiquer une certaine conception des « modèles », et, au-delà, une certaine conception de l'épistémologie de la discipline « didactique des langues-cultures ». L'essai commence par une longue première partie ou est présentée l'opposition entre « théories » et « modèles », ainsi que les différentes

formes, fonctions et types de modèles en didactique que d'on doit prendre en compte pour appréhender et gérer la complexité de la discipline. Dans la seconde partie sont décrites les différentes réductions de cette complexité qu'opèrent au contraire, dans leur usage du modèle PPP, beaucoup de spécialistes de didactique internationale de l'anglais. Ils conçoivent en effet le modèle comme un produit basé sur une théorie de l'acquisition – d'où le débat récurrent chez eux entre les partisans de ce PPP et ceux du modèle TBL (*Task-Based Learning*, « Approche par les tâches ») –, et non, comme l'exigerait la complexité de la discipline, comme un process de praxéologisation au cours duquel on teste, explore et manipule ce modèle au moyen de variations aussi bien en interne (modifications, ajouts) qu'en externe (en combinaison ou articulation avec d'autres modèles. À l'examen du résultat des analyses, le diagnostic médical est facile à poser : beaucoup des spécialistes la didactique internationale de l'anglais sont affectés d'une forme particulièrement virulente d'applicationnisme. Et l'ordonnance de soins apparaît tout aussi aisée à rédiger en ce qui les concerne : « Séances de réflexion approfondie sur l'épistémologie de la discipline "didactique des langues-cultures" jusqu'à disparition du symptôme PPP (ou PBL), et apparition du paradigme de complexité »...

#### Acronyms and codes

-CEFR(L): Common European Framework of Reference (for Languages), COE 2001

- -IDE: International Didactics of English
- -DLC: Didactics of Languages and Cultures
- -L1: source language
- -L2: target language
- -PBL: Project-Based Learning
- -PPP: Presentation Practice Production
- -TBL: Task-Based Learning

#### **N.B.**:

-The terms designating the phases or activities of a model are written with an initial capital letter: Preparation, Presentation, Practice, Production, Evaluation, Pre-task, etc.

- Only documents with codes ending in "-en" (073-en, 1997d-en, etc.) are published in English. All others are in French, except for one in Spanish, coded "-es" (2019i-es).

#### **General introduction**

#### Purpose and objective of this essay

**The purpose of this essay** is to critically analyze the PPP (*Presentation-Practice-Production*) "model" as it has been defended or criticized from the 1980s to the present in International English Didactics (henceforth "IDE"). I will use this name (which is my own) to designate the didactics that has been developed since then in the major international English language journals devoted to the teaching of this language as an international language, and in the works published by the major publishers in this field<sup>1</sup>.

This IDE, which is thus a particular version of what I call "didactics of language-cultures" (DLC), can seem very diversified when followed from the inside, and it is indeed the place of much more frequent, explicit and even personalized public debates than those that take place in French didactics of French as a foreign language, which is admittedly particularly disappointing on this  $\mathsf{point}^2$  . But observed from the outside, from another didactic culture, it is another common culture that appears, the oppositions being situated within the same epistemological conception of the discipline, as much as it concerns teaching, research and research writings, as well as training for teaching and research. I think that IDE scholars, for example, would not be willing to consider the idea, which I advocated in a conference in 2019, that the dominant paradigm of the "good" researcher, who should be "specialized/ sharp/deep, "cutting edge/innovative," and "objective"-must be contrasted with one that is at the same time complementary to it: the "good" researcher must also be able to be "shallow," "traditionalist," "subjective," and if necessary "opportunistic" and "polemical" (Puren 2019a-en). These IDE specialists would no more be willing to consider, as I believe could be quite relevant, that in a research article only the publications of its author are cited (cf. Puren 2023a, forthcoming); or, as in the bibliography of this essay, that some of the author's documents have no publication date because they are regularly updated on his site (cf. in the final bibliography, "Puren 002, 004, 005, etc.").

The main reason for this didactic culture common to all these specialists is undoubtedly that put forward by the English-speaking didactician of Indian origin Bala Kumaravadivelu. According to this author, this discipline has been dominated for decades by native speakers from the "countries of the Center" (USA, United Kingdom, Canada, Australia), who have managed to impose their conceptions of the teaching of English as an international language in the countries that he calls, to oppose them to the first ones, the "countries of the Periphery"<sup>3</sup>.

**The objective of this essay** is to analyze a fundamental characteristic -in the strong sense of the adjective- of the epistemology of this IDE, namely the way in which the status of "models" is conceived: as intermediate concepts between theories and practices, it is understandable that their control is not only a scientific issue, but also one of power, and of what comes with it (recognition, positions, etc.).

<sup>&</sup>lt;sup>1</sup> For example, the journals *Applied Linguistics, Language Teaching Research, Studies in Second Language Acquisition, ELT journal, TESOL Quarterly*; or books published by Longman, Cambridge University Press, Peter Lang, Oxford University Press, Routledge.

<sup>&</sup>lt;sup>2</sup> Cf. Puren 2015f-en.

<sup>&</sup>lt;sup>3</sup> Cf. among others Kumaravadivelu 2005, 2016. See also my long study on the work of this author: Puren 2022b. The two expressions he uses to designate the countries he considers dominant and those he considers dominated announce the very critical and militant aspect of his approach, which he situates, in his latest publications, in an explicitly "decolonial" perspective.

The example taken in this essay is the PPP model and not the other major competing model whose design could have been analyzed with the same objective and the same results, namely the TBL (*Task-Based Learning*). I will only touch on this second model, as well as which, to my knowledge, has been much less developed up to now<sup>4</sup> and is still little cited in IDE, the PBL (*Project Based Learning*) which corresponds in Europe to the *Social Action-Qriented Approach* ("Perspective actionnelle" in French) recommended in the Common European Framework for Languages of 2001 (CEFR, COE 2001)<sup>5</sup>.

I chose to focus on the *PPP model* for several concordant reasons:

-it is the one that has been defended or discussed the longest in IDE;

-It is the one that is most widely distributed because it is promoted by the supporters of the communicative approach;

-Finally, it is the one that is most implemented in language textbooks, and therefore probably the most often implemented by teachers in their classes.

It is not my intention here to enter into the didactic debate on this PPP model, and even less into the debate between the promoters of the PPP model and those of the TBL and PBL models -even if this debate has repercussions on the very concept of "model" in IDE. The point, as mentioned above, is to use the example of the PPP model to analyze the design of models as revealing the epistemology of this didactic culture. This is why I will only present this particular PPP model at the very beginning of the second part, taking the example of the description proposed by a single author. One of the main conclusions I have drawn from my readings in IDE is indeed that the intensity of the debate between proponents of the PPP model and between proponents of this model and proponents of the TBL model has overshadowed the need for a debate on the very concept of "model" and on the use of models in research, teaching and training in DLC.

This critical analysis of the PPP model is preceded by the first part where I present on the one hand the epistemology of modeling in DLC as it seems to me to be required by both the object and the project of this discipline, both characterized by complexity, and on the other hand the uses of models in research, training and teaching. This analysis is largely based on the ideas I have already presented in my essay entitled *Modélisation, types généraux et types didactiques de modèles en didactique complexe des langues-cultures. Essai* (Puren 2022f), but the whole of this first part has been conceived in such a way as to be able to then, in the whole of the second part of this essay, build what I will call the "argumentative toolbox" of the PPP "model" critique in IDE.

The first part may seem very long compared to the second part, the only one announced in the title of this essay, but it seemed necessary to me at least for my IDE-only readers. But all readers will be able, if not to start with the second part (reading the synthetic conclusions of the first part will perhaps allow them to self-assess if they can do so), at least to navigate between the two, consulting in addition, possibly, when they deem it appropriate, my other essay on modeling cited in the paragraph above (Puren 2022f).

<sup>&</sup>lt;sup>4</sup> I have not found, for example, practical schematizations of this model in terms of the organization of sequences or didactic units that are comparable to those proposed for the PPP and TBL models, except for the work of Acar (2020, 2022). I will propose may own model of the PBL at the end of the introduction of the second part. It is likely that the reason for this is that project pedagogy is based more on values than on theories, and that its practical implementations are highly contextualized because they depend closely on the actors and the environments of the projects.

<sup>&</sup>lt;sup>5</sup> I offer an example of a definition-description of these other two models in the general introduction to the second part of this essay.

#### The fundamental complexity of the field of language-culture didactics

By gathering and synthesizing what the epistemologists of complexity have written, in particular the French sociologist and philosopher Edgar Morin, we can define the concept of complexity by means of its different components: an idea, an issue, a situation, a difficulty, an intervention are "complex" because they present components or parameters that are multiple, diverse, heterogeneous, variable, interrelated, unstable (and therefore unpredictable), contradictory, and not totally objective (the analyst, the observer, the intervener are always present with their subjectivity). These components are not always present, but the more numerous they are, the higher the level of complexity.

All these components can be found in DLC, for example when we want to describe the characteristics of any group of students as they present themselves and behave in class in front of the teacher: the students are diverse, their behaviour is variable, partly unpredictable, etc. I illustrate all the characteristics of didactic complexity on this example in the course document "The components of complexity" (Puren 046).

The object of DLC is eminently complex, since it is the joint process of teaching and learning, conducted jointly by a teacher and a group of learners, of an object itself of great complexity since it is a language, the corresponding cultures, and their relations.<sup>6</sup>

The DLC project, which is the improvement of this joint teaching-learning process, naturally inherits the complexity of its subject matter, which it further increases insofar as the effects of any action in a complex environment are never totally predictable, to the point of being sometimes contrary to the intention of their authors<sup>7</sup>.

This is why there are no "problems" in DLC, but only "problematics", *i.e.* sets of problems with precisely all the characteristics of complexity (cf. "Problème *versus* problématique", Puren 023). This is why in the 1970s, in France, language teaching-learning specialists moved in their discipline from a methodological perspective (in which universal answers to methodological questions are sought) to a meta-methodological perspective, which they called "didactics", in which methodological questions themselves are questioned in relation to all of the varied parameters, variables, etc. of the teaching-learning environments<sup>8</sup>. This is why the process of a teacher's didactic training consists in the passage from what he or she initially perceives as "problems" to what he or she now knows he or she has to deal with as "problematics"<sup>9</sup>. This is

<sup>&</sup>lt;sup>6</sup> For more developments that I can make here on the issue of complexity in DLC, I refer interested readers to my *Essay on Eclecticism* (1994e), chapter 2.2, "La nouvelle épistémologie", pp. *73ff*, to my manifesto "Pour une didactique complexe des langues-cultures" (2003b), or to the chapter I wrote more recently for a collective work, "L'épistémologie de la didactique des langues-cultures, une épistémologie complexe pour discipline complexe" (2022e).

<sup>&</sup>lt;sup>7</sup> Edgar Morin (1990b) talks about the "ecology of action". In a 1997 article, I illustrate with several examples each of the following four propositions: 1. The perception of progress depends closely on the dominant values of the moment. 2. Progress in knowledge can be progress in uncertainty. 3. Progress in one area can cause regressions in another. 4. Progress in one area can be a regression in another (Puren 1997b).

<sup>&</sup>lt;sup>8</sup> To a teacher-trainee's methodological question, "Do I read this text myself in class, or do I let them read it silently?" a didactician can only answer: "It depends: Who are your students? What are your objectives? Why did you choose this text? What is its genre? What do you plan to do before and after this sequence? How are your students used to working? What methods do you want them to use with this text? How much time will you have? Etc., etc." I return to this shift from the methodological to the didactic (and then didactological) perspective in chap. 1.2.7.

<sup>&</sup>lt;sup>9</sup> This implies organizing initial teacher training, starting with methodological training (class observation, sequence construction, accompanied classroom practices, textbook analysis This implies organizing preservice training for teachers, starting with methodological training (observation of classes, construction of

also why research in DLC generally begins with problematization, and is evaluated less by the solutions it proposes than by the broadening and/or deepening of its initial problematic. If we want to group the whole research system into a single model, we end up with an extremely complex macro-system with heterogeneous inputs -empirical, methodological, technological, social and theoretical-; with diverse relations between field data, theories and theoretical, practical and praxeological models; with outputs such as textbooks, guides and pedagogical sheets, books, didactic articles and conferences, teaching and didactic training programs, official instructions<sup>10</sup> ...

Eclecticism has always been massive and constant among teachers because it is the only possible empirical mode of managing this complexity with which they are constantly confronted, and which they have never been able to manage and will never be able to manage solely by applying any constituted methodology: by their very nature, none of them, in fact, can be suitable for all students, for all objectives, for all teaching-learning environments, simply because they have only been able to construct themselves as global coherences by evacuating contradictions and by limiting their "global problematic of reference"<sup>11</sup>. This explains why communicativist methodologists, at least in France, have not been interested for a long time in three problematics that are nevertheless essential in a school environment, namely the management of student heterogeneity, motivation to learn and the management of L1.

This is why, finally, all the great historical methodologies -in France, the direct methodology, the American audio-oral methodology, the French audiovisual methodology and the communicative approach- were originally developed on the basis of a threefold problematic, that of the beginnings of learning, for a particular public and in a particular environment. All of them then came up against the contradiction between their extension to the continuation of learning for more advanced levels, to other audiences and in other environments, on the one hand, and the maintenance of their initial coherence on the other<sup>12</sup> . In other words, the methodologies established can only be maintained over time by becoming eclectic, just as teachers do over the course of their professional careers. This is clearly what happened with the communicative approach, which ended up combining the neo-behaviorism of the early days of learning -learners are trained to immediately relate certain language concepts and functions to certain communicative situations- with constructivism -students are asked to conceptualize the rules of the language in order to evolve their "intermediate grammar", or interlanguage. The communicative approach has also had to move from the basic dialogues manufactured to present notions and functions in everyday communication situations, to the treatment of authentic documents, which has led it to combine with the previous methodology that had been developed on this specific problematic, namely the "active methodology"<sup>13</sup>.

sequences, accompanied classroom practices, analysis of textbooks, etc., so that they can problematize themselves based on their own questions (see Puren 2010a).

<sup>&</sup>lt;sup>10</sup> Cf. Puren 2015a, especially the diagram on page 49, which this entire essay presents and comments on.

<sup>&</sup>lt;sup>11</sup> On this concept, see its definition in the Puren 030 glossary, and its use in the Puren 1998c article.

<sup>&</sup>lt;sup>12</sup> The so-called "unconventional" methodologies (such as the *Silent Way*, Suggestopedia, *Total Physical Response*, etc.) are more resistant precisely because they are so reductive that they can only be used for very limited audiences and contexts. In terms of management (which suits them, because they are often all commercial enterprises), they apply a "niche strategy", whether conscious or not: it is fortunate for them, paradoxically, that their promoters never recruit more than a limited number of followers working in very particular environments.

<sup>&</sup>lt;sup>13</sup> Cf. the document entitled "Didactic treatment of the authentic document in language and culture class. Task analysis model", Puren 041-en. I have presented in detail the different methodologies that have succeeded one another in France in my *Histoire des méthodologies de l'enseignement des langues* (Puren 1988a).

This fundamental complexity of the field of DLC has direct consequences on its epistemology (I speak for my part since the 1990s of "complex didactics of languages and cultures"), concretely, for what interests us here, on the way in which one can conceive the respective statuses and functions of theories, models and practices.

#### "Didactic "sequences" and "units

The complexity of DLC becomes apparent as soon as, as I have done in the preceding paragraphs, one refers not to the didactic **units** of the textbooks, but to the didactic **sequences** actually carried out by teachers in their classes. In this essay, I will use the usual expression "didactic *units*" to refer to what have long been called the "lessons" in textbooks, and I will reserve the term "didactic *sequences*" (or "class sequences") to refer to the same type of division of the flow of teaching carried out by the teachers themselves in their own practices when they do not use a textbook, or when they use their textbook in their own way, or when they use only certain elements of one or several textbooks. By "same type of division" I mean a division into sequences that fulfil the same didactic functions as the division into didactic units<sup>14</sup>. This distinction is essential, because the PPP model can be applied in a limited way when we limit ourselves to textbooks and their didactic units; but it proves to be very inadequate when we want to apply it to teaching-learning practices as they are carried out in actual classroom sequences.

As my critique of the conception of the "model" in IDE will be made on the basis of my own conception of modeling in the discipline, I will present it in the first part, namely modeling as a privileged didactic tool for apprehending and managing complexity. In the second part, I will present the conception of the PPP "model" in IDE, my thesis being that it tends to function, conversely, as a tool for the systematic reduction of complexity.

#### **1.** First part: models in complex language-culture didactics

#### Introduction of the first part

In the first chapter, I will present the difference between "theories" and "models" from the point of view of the current epistemology of the sciences, focusing on the epistemology of the humanities, to which DLC belongs. The next two chapters will present the different forms that models can take (there are serial, procedural, process, cartographic, historical and systemic models), and then the different functions that they can perform (these are the cognitive, pedagogical, practical and heuristic functions). In the last part, the three types of existing models in DLC will be presented, namely theoretical, practical and praxeological models. All these forms, functions and types can intersect in different ways in the models, including when they are elaborated from the same field data, and the models themselves can be combined or articulated between them, so as to apprehend or manage in the most adequate way possible the complexity of didactic problematics.

#### 1.1. "Theories" versus "models

Two epistemological conceptions of the didactics of languages and cultures have been in opposition since the time when some wanted to base it on scientific theories -concretely a linguistic theory, distributionism, and a cognitive theory, behaviourism. This was at the time of the development of the *Army Method in the* USA, in the 1940s and 1950s, and especially of its general public version, the audio-oral methodology, in the 1960s<sup>15</sup>. Since that time, there has

<sup>&</sup>lt;sup>14</sup> On these functions, see Puren 2011b, pp. 4-6, or 2013k p. 3.

<sup>&</sup>lt;sup>15</sup> For a description of these two methodologies, see my *History of Histoire des methodologies de l'enseignement des langues*, Puren 1988a, chapters 4.1.2 and 4.1.3, pp. 193-205.

been in DLC an epistemology which claims to be "scientific", on the model of the so-called "exact" sciences, and another which, following the example of that which has been imposed in the human sciences for several decades, wants to take into account the complexity of its problematics.

Edgar Morin, known in France as the "philosopher of complexity", thus contrasts the "scientific paradigm", which he recognizes as legitimate in the exact sciences, the "complexity paradigm", the only one he considers suitable for the human sciences (and therefore, in my opinion, for DLC, which is part of it), and the "scientistic paradigm", which is that of the human sciences which want, wrongly, to take up the scientific paradigm when it is not adapted to them (the synthesis table is mine, based in particular on E. Morin 1986, 1990a):

The scientific paradigm	The scientistic paradigm	The complexity paradigm
"Scientific reductionism"	Reduction	Systemic approach
One manipulates a reduced model of reality.	One confuses a reduced reality for the scientific analysis with the reality itself.	One tries to take into account as much data as possible, knowing that a reality itself escapes us.
Specialization	Disjunction	Union of distinction and disjunction
One distinguishes between different fields, levels, problems to analyze each one separately.	One autonomizes the different disciplines, domains, levels, problems	One tries to unite the distinction (necessary to the perception) and the conjunction (which restores the interrelations, the articulations, the multidimensionalities).
Rationality	Rationalization	"Open rationality"
-One uses as an instrument of knowledge and control	-One seeks to build a perfect and totalizing coherence around a unique principle (Copernican paradigm).	-One is conscious of the limits of logic, of the perverse effects of theoretical closure, of the inexistence of a unique principle of coherence (Hubblean paradigm).
-One tries to eliminate imprecision, uncertainty and contradiction.	One considers legitimate only precise and certain knowledge.	-One works with imprecision, uncertainty and contradiction.
-One seeks the truth.	-One is certain to hold the truth.	-One turns around the problem of the truth by passing from perspective to perspective, from partial truth to partial truth.
<ul> <li>One strives to be objective.</li> </ul>	-One is persuaded to be objective.	-One knows that the subject is always present in the observation of the object, and we look for intersubjective procedures of objectivation.

The complexity of DLC cannot be managed from theories, because these are partial and exclusive of each other, but from models, because these, as required by the complex paradigm, take into account a maximum of data, put these data in relation to each other, do not exclude each other -two models can be both opposed and complementary-, admit "imprecision, uncertainty and contradiction", do not claim to represent reality in itself but only to be tools for action on this reality, tools that can be modified at will, or even abandoned as soon as others prove to be more efficient.

I have already quoted several times in my work the following passage by the philosopher Pierre Lévy in his book *Les technologies de l'intelligence. L'avenir de la pensée à l'ère informatique* (1990), because it seems to me to express clearly what can be called the "philosophy" of modeling, while at the same time explaining why it has imposed itself in the current scientific culture.

In the civilization of writing, the text, the book, the theory remained, on the horizon of knowledge, possible poles of identification. Behind the critical activity, there was still a stability, a possible uniqueness of the true theory, of the good explanation. Today, it is becoming more and more difficult for a subject to consider his identification, even partial, with a theory. [Theories, with their norm of truth and the critical activity that accompanies them, are giving way to models, with their norm of efficiency and the judgment of appropriateness that presides over their evaluation. The model is no longer written on paper, that inert support, it runs on a computer. This is how the models are perpetually rectified and improved through simulations. [From now on [...] we will have to deal with more or less relevant models, obtained and simulated more or less quickly, and this more and more independently of a horizon of truth, to which we could adhere durably. If there are fewer and fewer contradictions, it is because the claim to truth is diminishing. One does not criticize any more, one debates (pp. 136-137).

In the human sciences, the use of all available models has become even more obvious than in the exact sciences, to the point that if their specialists still speak of "theories", they do not think of theories in the *strict sense*, but of "theoretical models". Psychotherapists, for example, no longer consider psychology and psychoanalysis to be incompatible, the only question now relevant to them being when to choose one or the other therapeutic model, or to combine them, during the diagnosis and treatment of a given patient. Language and culture educators recognize that mother tongue learning processes cannot be explained solely by the behaviourist model, because they also require, among other things, the mobilization of the opposite, constructivist model<sup>16</sup>. And they also refer to various "grammars", which are different but complementary theoretical models for describing the functioning of language. Some linguists, in order to valorize themselves as academics, still call "theories" what can be considered precisely, from the point of view of the epistemology of science, only as "theoretical models": the description of a text by its genre characteristics is not more "exact", is not closer to its linguistic reality, than its morphosyntactic, or textual, or discursive description: it is only one of the scientific perspectives on language, all of which can be relevant for the teaching and learning of this complex object.

This historical evolution of the epistemology of the humanities makes it all the more incongruous for some didacticians to still rely on existing "theories", or to hope for new ones, that would provide them with definitive "scientific" certainties on how to describe the object and manage the project of their discipline<sup>17</sup>. The following table is inspired by two of the four epistemological references that I believe are essential for a complex didactics of languages and cultures, namely *Edgard Morin*'s complexity paradigm and Richard Rorty's pragmatism<sup>18</sup>. It contrasts the conceptions of those who want to base DLC on extra-didactic "scientific theories" provided by the "language sciences" and the "cognitive sciences", on the one hand, and the conceptions of those who, like me, consider that the complexity of DLC can only be managed by means of models, on the other:

<sup>&</sup>lt;sup>16</sup> Cf. infra chapter 1.4.1.1.2 "Cognitive models of teaching-learning".

<sup>&</sup>lt;sup>17</sup> This scientistic paradigm is also very present in the CEFR authors. Cf. the survey of corresponding occurrences in Puren 2015f-en, p. 8.

<sup>&</sup>lt;sup>18</sup> Cf. The four epistemological references of a complex didactics of languages-cultures, Puren 048, with in addition a personal bibliography. The other two references are the "adequacy paradigm" of Herbert Alexander Simon (1996) and the "systemic paradigm", e.g. of Bernard Walliser (1977) and Jean-Louis Le Moigne (1994). I will quote later in this text another more radical epistemologist, Paul Feyerabend.

	scientific theories	Didactic models		
Conception of knowledge	Knowledge as a representation of reality	knowledge as a confrontation with reality, "the fact of dealing with it" (R. Rorty)		
Project	describe the reality	act on reality		
Validation criteria	<ul> <li>-predictive power</li> <li>-adequacy to the reality itself</li> </ul>	-the most efficient explanation of a set of information expanded to the maximum" (R. Rorty) -effectiveness of the action in context		
Approach	external approach: theories developed in disciplines outside DLC are imported as is	internal approach: – models are developed within the DLC itself –external theories are used to develop or support didactic models		
Orientation	product orientation: theories are used	process orientation: we focus on the modeling activity itself		
Approach	hypothetical-deductive approach	conceptualization by induction from empirical observation		
Method	-Simplification of reality: analytical approach, reproduction by manipulation of isolated parameters -search for absolute objectivity	problematization": taking into account the complexity with its multiple, heterogeneous, variable, interrelated, contradictory and context-sensitive parameters (E. Morin) –implementation of "intersubjective objectification procedures" (E. Morin)		
Implementation	we "apply" a theory	we "run" a model		
Theory-practice relationship	critical perspective: practice is seen as "the product of a degradation of theory" (R. Rorty)	pragmatist perspective: theory is treated "as an aid to practice" (R. Rorty)		

#### Fig. 2: "Scientific theories" versus "didactic models

Source: Puren 015

We shall see further on in chapter 1.4. that we must distinguish, among the didactic models, between "theoretical", "practical" and "praxeological" models. Linguistic theory(distributionism and cognitive theory (behaviourism) have at one time strongly influenced DLC, but even in this applicationist logic, they have only been able to do so concretely because corresponding "theoretical models" -respectively the analysis in immediate constituents and the stimulus-response-reinforcement model- have been able to generate practical models -respectively the "structural tables" of language textbooks, and the structural exercise in the language laboratory<sup>19</sup>.

The epistemology of DLC and of disciplinary didactics in general (those of school disciplines) is comparable to that of pedagogy, on whose "reflections" the sociologist Émile Durkheim wrote the following lines in a 1922 book:

These reflections take the form of theories; they are combinations of ideas, not combinations of acts, and, by this, they are close to science. But the ideas which are thus combined have for object not to express the nature of the given things, but to direct the action. [...]. To express the mixed character of these kinds of speculations, we propose to call them **practical theories**. Pedagogy is a practical theory of this kind. It does not study educational systems scientifically, but it reflects on them with a view to providing the educator's activity with ideas to direct it (pp. 88-89, emphasis added).

<sup>&</sup>lt;sup>19</sup> See Puren 1988a, pp. 197-198 and pp. 200-202.

In the same 1922 book, É. Durkheim defines these "practical theories" as "combinations of ideas" belonging to an "intermediate mental attitude" between, on the one hand, "science proper" and, on the other hand, "art", such "the art of the soldier, the lawyer, the teacher", which are "ways of doing things [coming] either from a traditional experience communicated by education, or from the personal experience of the individual".

The epistemology of pedagogy and disciplinary didactics is comparable to that of the social sciences as presented by A.M. Huberman and M.B. Miles in their 1991 book. They define it<sup>20</sup>:

-by its object, namely empirical data made up not of numbers but of words organized in texts, and collected by observations, interviews, extracts of documents or recordings; -and by its mainly inductive methodology, which consists of:

1) to "condense empirical data through 'selection, centering, simplification, abstraction

and transformation'" (p. 35);

2) to present them in the form of matrices, graphs, diagrams and tables in order to "draw conclusions and take action" (p. 36);

3) finally, to elaborate/verify these conclusions through extensive work on replicating a result in another data set, or through "discussions among colleagues aimed at developing an intersubjective consensus" (p. 37). Indeed, in the humanities, according to the authors, "there are no accepted canons, decision rules, algorithms, or even heuristics in qualitative research to indicate whether the conclusions are valid and the procedures sound" (p. 374).

The objective that A.M. Huberman and M.B. Miles propose is to progressively achieve "conceptual/theoretical coherence" (p. 413) by linking each piece of data collected in the field to other data, and then by grouping them together under broader and broader "conceptual elements" (constructs); these conceptual elements will finally be linked together in a "theory", which is defined as a "conceptual framework" consisting of a description of the key concepts (dimensions, factors, variables) as well as of their relationships and interactions. (Puren 1997b, p. 8)

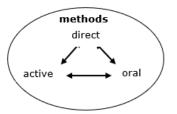
What we call "models" in epistemology are the schematic representations of these "combinations of ideas" of É. Durkheim, or of those "matrices, graphs, diagrams and tables" by which Huberman and Miles propose to present the "conceptual elements" of these "conceptual frameworks" which are in reality for them the said "theories". Durkheim's "combinations of ideas", or those "matrices, graphs, diagrams and tables" by which Huberman and Miles propose to present the "conceptual frameworks" that are in reality for them the said "sociological theories".

We will see later on several examples of didactic models. But as a first example, I propose below the practical model of the "hard core" of "methods"<sup>21</sup> of direct methodology, certainly the most productive and resilient in the entire modern history of DLC:

<sup>&</sup>lt;sup>20</sup> I repeat verbatim a passage from my 1997 article entitled "Concepts et conceptualisation en didactique des langues: pour une épistémologie disciplinaire" (Puren 1997b).

<sup>&</sup>lt;sup>21</sup> "Method" here has the meaning of "minimal unit of methodological coherence": the "method" is to methodology what the phoneme is to phonology, or the seme to semantics. I present them all in pairs that are at once opposed and complementary, as complex epistemology requires (direct/indirect methods, inductive/deductive methods, onomasiological/semasiological methods, etc.) in a single table (Puren 008). A "method" consists of a principle, the corresponding objective, and all the techniques for its implementation (cf. Puren 005). The "core" of a methodology is a set of preferred methods that are very strongly articulated to each other.

Fig. 3: Hard core of the direct methodology



The three "ideas" or "conceptual elements" that this historical model of modern language teaching mobilizes are:

(1) that a target language (L2) is taught directly, *i.e.* without passing the students through the intermediary of the source language (L1): direct method;

(2) that an L2 is taught by having the students practice it themselves: active method;

(3) that we teach to speak an L2 by having the students themselves speak it directly: oral method combined with the other two methods.

This model appears with the direct methodology of the beginning of the XXth century -these three methods constitute its "hard core"-, but it is found in all the great historical methodologies up to the present day, from the direct methodology of the 1900s, therefore, up to and including the communicative approach and the Social Action-Oriented Approach.

#### 1.2 Different forms of models

Models can take many forms, according to which they can be given different names. I will take all my examples in DLC, declining the different possible forms that can be given to the fundamental conceptual framework "teaching - learning - use".

#### **1.2.1.** The series models

These are simple enumerations of elements; for example, the concept of "didactics" traditionally refers to "teaching-learning". The "teaching-learning-using" model is arguably more accurate - or at least more complex. The subtitle of the 2001 CEFR is another very different model-series: "Learning. Teaching. Evaluate", and there are many definitions in this document in the form of two serial models, e.g. communicative competence by linguistic, socio-cultural and pragmatic components, which are themselves defined by components (e.g. the pragmatic component by discursive and functional sub-components). As a final example, I myself have proposed a "complex model" of the culture component defined by its trans-, meta-, inter-, pluri- and co-cultural components (Puren 2011j).

#### **1.2.2.** Correspondence models

These are tables that make it possible to cross-reference between their elements. For example, we can cross-reference "teaching", "learning" and "use" with "evaluation", which reveals three different major evaluation problematics:

Fia 4	table crossing	"evaluation" with	"teaching"	"learning" and "using
ту. ч.	table crossing	evaluation with	teaching ,	icarning and using

	Teaching	Learning	Using
Evaluation			

Other examples: the two tables above which oppose according to several common criteria, the first one the scientific, scientistic and complex paradigms, the second one the scientific theories and the didactic models, are corresponding models.

#### 1.2.3. Procedure-models

Procedure-models (or "procedural models") describe how different predefined tasks follow each other in a predetermined linear order. An example of a process model is the correction of learner errors:

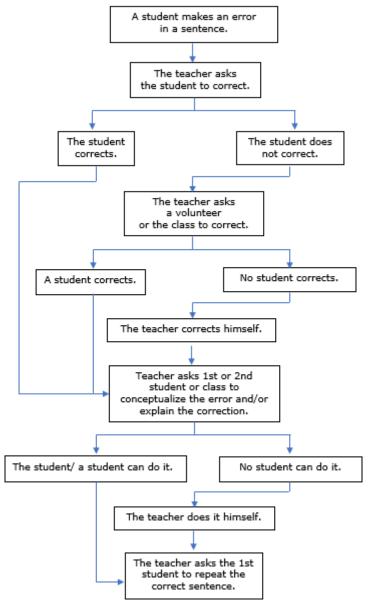


Fig. 5: Model-procedure for correcting student errors

This version of the learner error correction model can be compared with another more complex version that incorporates not only the active method (*i.e.* the requirement of learner participation), but also the conceptualizing method applied to learner errors: see my essay on DLC modeling (Puren 2022f), p. 22.

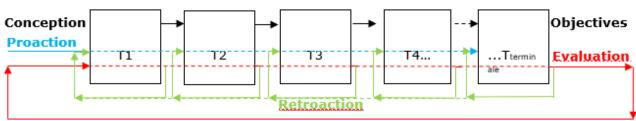
The "historical" models, which we will see in chapter 1.2.6, are also chronological models, but they represent changes over time.

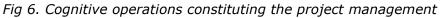
#### **1.2.4.** The process-models

Contrary to procedure-models, which are linear, process-models (or "processual models") integrate recursion: following the evaluation of a task, one may have to repeat one or more previous tasks identically (this is the *iteration* operation), and even modify the planning by

deleting, modifying, adding or reorganizing several previous or subsequent tasks (this is the *retroaction*, which is therefore not a simple "feedback operation", because it returns to the process in a dynamic way).

A very complex model of this form is that of the cognitive process of the project approach. Its tasks are subject to complexity management operations that constantly combine *proactivity* -in which one mentally projects oneself into the tasks to come- and retroactivity: proactivity and retroactivity are thus constantly intertwined. This is what happens in pedagogical projects, in which the three fundamental elements "teaching", "learning" and "use" are jointly and constantly subjected to these two major types of opposing and complementary operations. Here is the corresponding process model (it is commented in detail in Puren 2017a):

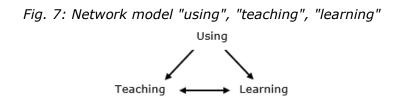




These cognitive operations can be found in the practical PBL (Project-Based Learning) model: see *below the* Introduction to Part Two, "Presentation of the PBL model".

#### 1.2.5 Network models

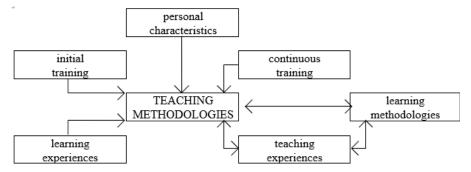
In these forms of model, the elements are interrelated: we will thus represent the elements "teaching", "learning" and "use" linked together by two-way arrows, which leads us to question all their possible reciprocal relationships<sup>22</sup>:



Other examples of network models: the model reproduced above of the core direct methodology is a network model of three methods combined. In my *History of Methodologies*, I proposed a more complex network model of this methodology, relating its seven core methods (Puren 1988a, p. 80). At the end of a mental experiment of modeling the different origins of each teacher's teaching methodology, I proposed the following network-model relating all these origins (1999h, p. 30)

<sup>&</sup>lt;sup>22</sup> The "heuristic" function of the model is then brought into play. Cf. *below*, chapter 1.3 "Different functions of models".

*Fig. 8: Network model of the components of teachers' personal methodology* 



#### **1.2.6.** Cartographic models

They allow concepts to be positioned in relation to each other. For example, we can place "object" and "subject" as two extreme limits of a continuum between which will be situated at a certain moment, or move in time, different intermediate positions of centering on the teaching methodology or on the learning methodology:

Fig. 9: Continuum between teaching-centeredness and learning-centeredness

				$\longrightarrow$
teaching	teaching to learn	teaching to	learning to learn	respecting
(imposition by the	(the "intermethodo-	learn to learn <sup>23</sup>	(learner's personal	learning
teacher of	logical": management by	(teacher's	development of	(respecting the
established	the teacher of the contact	proposal of	individual learning	types of learners
teaching/learning	between learning metho-	differentiated	strategies)	and learning
methodologies)	dologies and teaching	learning		habits)
	methodologies)	strategies)		

Source: Puren 1998f

By "running" this object-subject model onto the didactics of culture, three different versions of the intercultural component of cultural competence emerge, as well as two other competences that have emerged more recently:

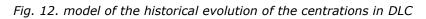
<sup>&</sup>lt;sup>23</sup>Formula used by the Swiss didactician René Richterich *in* 1992: "I firmly believe that the role of the teacher will be essentially, I would like to say exclusively, **to teach to learn to learn** so that the learner can then or concurrently learn on his own in a resource center, a media library or at home, if he has the means, by creating his own resource center (computers, video, audio tapes, etc.), by taking a trip or an internship in the country whose language he is learning." (p. 45, my emphasis)

OBJECT SUBJECT ORIENTATION ORIENTATION					
	PREF	ERRED COMPO	NENT OF CULTUR	AL COMPETENCE	
metacultural	"C'k'	intercultural		pluricultural	co-cultural
"Teaching civilization"		ation, initiation, opening, rcultural discovery"		Training	Training
	version 1	version 2	version 3	to live together	to act together
The reality of C2* must be discovered by the learner.	The reality of C2* is distorted by the learner's subjectivity: he or she has stereotyped representations of it.	C1* as experienced by native speakers is itself a set of representations.	Each native subject belongs to different cultures, and is therefore able to play on/with them in his personal communication.	The training of citizens in a multicultural society requires that they have a plural repertoire of culturally adapted attitudes and behaviors, as well as the competence to mediate.	A common culture of action (a set of shared conceptions) must be adopted and/or created by subjects from different cultures in order to act effectively together.
	of it.			competence to mediate.	effectively together. (Puren 019)

*Fig. 10: The three versions of interculturality, between object orientation and subject orientation* 

### 1.2.7. Historical models

Like procedural models, they are chronological models, but they represent evolutions over time. In France, the evolution of pedagogical conceptions in DLC has often been represented in the following way:



This is certainly a very simplistic representation<sup>24</sup>.

Another example: I have shown, in a research that I carried out in 1994 on the evolution of the didactics of the FLE in France from 1925 to 1975, that this discipline had quickly reached maturity by adding to a methodological perspective, exclusive until the end of the Sixties, a "didactic" perspective (*i.e.* meta-methodological) at the beginning of the Seventies, then a didactological perspective (*i.e.* meta-didactic) at the beginning of the Eighties (Puren 1994a). From the methodological perspective, the didactic problematic is approached from the angle of ways of teaching and learning (methods, techniques, approaches, methodologist looks for methodological answers, a didactician looks for the questions that the teacher must ask himself before looking for these answers<sup>26</sup>. As for the didactologist, he questions didactics itself, essentially from epistemological -as I am doing now-, ethical or political positions.

The historical model of the maturation of the didactics of French as a foreign language in the years 1960-1980 can be represented as follows<sup>27</sup>:

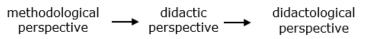
<sup>&</sup>lt;sup>24</sup> For example, digital environments have driven a technological determinism that has led some, after the "learner-centeredness" of the communicative approach, to a return to a "material-centeredness" (cf. Puren 2004d, p. 6). I have also developed a systematic critique of the notion of "learner-centeredness" in Puren 1995a.

<sup>&</sup>lt;sup>25</sup> See my glossary of the "semantic field of 'method'", Puren 004.

<sup>&</sup>lt;sup>26</sup> I will further present a model of the "field of didactic perspective" conceived precisely as a mechanism of meta-methodological questioning.

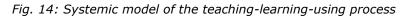
<sup>&</sup>lt;sup>27</sup> For a detailed presentation of these three perspectives, see Puren 002 and 1999a. In the conclusion of chapter 1.4, I present the didactic and didactological perspectives in the form of a process-model and a network-model.

Fig. 13: Historical evolution of DLC constituent perspectives



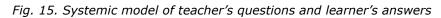
#### 1.2.8. Systemic models

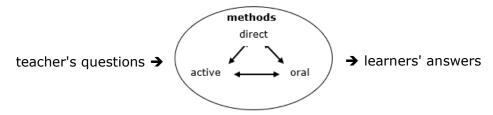
These are the preferred tools of the so-called "systemic" approach currently dominant in all the human sciences which seek to take complexity into account. They are indeed the models whose functioning is the most complex: they represent a set of elements interrelated in a dynamic way (in this respect, they belong to the network-models), by means of recursions (in this respect, they belong to the process-models); but moreover -and this is what makes it a "system"-, the whole is self-organizing in a global way and produces its own internal effects ("emergences"), while being open to its environment by "inputs", and producing in return its own external effects ("outputs"). We could thus, in a first analysis, consider teaching as the inputs, and use as the outputs, within a system whose core would be learning:





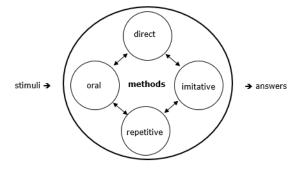
The "core" model of direct methodology, represented above as a network, can be completed as a systemic model<sup>28</sup>, with the teacher's questions as inputs, and the learners' answers as outputs:





The same form of systemic model can be used to represent the learner training system in the structural exercise of the American auditory-oral methodology:

<sup>&</sup>lt;sup>28</sup> In a 1902 pedagogical conference, Adrien Godart, one of the great French direct methodologists, speaks twice of the "**system of** questions and answers" (1903, p. 8, p. 20). But the noun "system", for him as for his colleagues of the time, is undoubtedly called by the adjective "systematic" in the common sense, namely "employed in a constant and generalized manner". At that time, it could not refer to the current notion of "system". Nevertheless, the teacher's questions and answers do function as a true systemic model from this methodology.



In this type of exercise, the L2 stimuli (direct method) lead learners to respond<sup>29</sup> by intensively repeating (repetitive method) oral (imitative method)<sup>30</sup> models of L2 (direct method). This methodological core appeared historically in the American *Army method of* the 1940s-1950s for the didactic treatment of lists of *pattern sentences* or dialogues: the linguistic forms which are thus presented are repeated until they are known by heart, then taken up again progressively in a freer and freer way in exchanges between learners<sup>31</sup>; the audio-oral methodology will extend the application of this model to the teaching-learning of grammar, and it is what will generate the structural exercise there (cf. Puren 1988a, p. 201).

#### **1.3.** Different functions of the models

In his 1977 book entitled *Systèmes et modèles. Introduction critique à l'analyse de systèmes*, Bernard Walliser presents eight different functions that models can perform (cf. Puren 014), Those that seem relevant to me in DLC, whatever the form of the models, are the following four:

(1) a cognitive (or "descriptive") function: the model is used to **represent** a complex object in a simplified way;

(2) a pedagogical function, directly linked to the previous one: the model is used to **present** this object to others in an immediately understandable way;

(3) a practical function: the model then serves directly to **take up** a way of doing<sup>32</sup>; this is the specific function of the models called precisely "practical", such as that of the system of questions [of the teacher]-answers [of the students] or that of the structural exercise that we have just seen;

(4) a heuristic (or "search") function; it is then:

<sup>&</sup>lt;sup>29</sup> "Respond" in the sense that this term has in the behaviourist theoretical model, that of "reacting in a reflexive manner".

<sup>&</sup>lt;sup>30</sup> Note here the different meanings of "model", that of "model to be reproduced", and that of a complex conceptual tool that can perform several other functions (cf. *infra* chapter 1.3 "Different functions of models").

<sup>&</sup>lt;sup>31</sup> Cf. the description made by A. Roche in a report entitled A Survey of Language Classes in the Army Specialized Training Program written after his visit to the USA, in February 1944, of **427** classes (*sic*!) of this program (see the reproduction of the passage of his 1955 article describing the phases of the class sequences in Puren 1988a, pp. 193-914). Let us note in passing that there is also an implementation of the PPP model, which exists in the American audio-oral methodology, and does not appear only with the communicative approach as Jason Anderson asserts (2017, Introduction, p. 218). This model is already found earlier in the direct methodology of the 1900s-1910s in France -which is maintained for the first years of teaching until the 1960s-, with (1) an oral Presentation of the lexical theme of the didactic unit from wall charts, then a written Presentation by means of a descriptive fabricated text, (2) a Practice by means of grammar exercises, (3) a final written Production.

<sup>&</sup>lt;sup>32</sup> To take up a practical model does not necessarily mean to *reproduce* the corresponding practice, as the logic of praxeological modelling may lead to its modification. Cf. the first example given at the beginning of chapter 1.4.3.2, that of a structural exercise in the laboratory momentarily interrupted by a grammatical conceptualization.

- -to **test** its representativeness;
- -to **explore** the object it represents;
- -or to **manipulate** it, by modifying it and/or combining it with others.

The heuristic function that models can fulfil seems to me to require particular explanations and illustrations, because it is less obvious than the other three, whereas it is this function that differentiates models from simple explanatory diagrams, and heuristic models (processoriented) from practical models (product-oriented). It is above all this heuristic function that makes these models capable of being manipulated as instruments of thought dynamization, as generators of ideas, both during their elaboration process and during their exploitation process by teachers and researchers.

**–In their elaboration process**, theoretical models, as Huberman and Miles have well described (cf. the long quotation *above*), require an effort of "selection, centering, simplification, abstraction and transformation" of empirical data and of putting together the concepts thus produced, which "condense" reality into forms such as the "matrices, graphs, diagrams and tables" cited by these authors. These models thus make it possible to give an account of complex reality in a *simplified rather than reductive* way, which makes it possible to apprehend it globally<sup>33</sup>.

-In their exploitation process, the models, generated by abstraction and simplification, undergo the opposite operations of concretization and complexification, but -and this is where their interest lies for teaching as well as for research and training- by means of the mobilization, by teachers and researchers, of their practical knowledge acquired beforehand during their training, in the exercise of their profession, through their readings or through their exchanges with colleagues<sup>34</sup>. Here are some examples:

- A model can generate, through its elements and the relationships that can be imagined between them, ideas that not have been thought of before. The "teaching-learning-use" model-series, because it is different from the usual "teaching-learning" model-series, thus allows us to reflect on the different functions attributed to use in the language classroom -classroom management in L2, didactic treatment of authentic documents, simulated uses, real uses during the preparation of classroom projects and during the realization of projects in society, etc.- as well as on the relations that these different relations that use has between the L2 and the real world have with each other. -, as well as to the relationships that these different uses have or could have with teaching and learning. In an *Attempt at problematization and modeling of "distance learning" in educational didactics of languages-cultures: for an engineering of hybridization* (Puren 2020e-en), I proposed two tables (or "correspondence-models", cf. next chapter 1.3), one of which crosses 6 x 4 concepts (fig. 2, p. 40) and the other 7 x 4 concepts (fig. 3 and 4, pp. 41-42). As a result, they produce 24 and 28 boxes respectively, some of which will undoubtedly generate new ideas.
- A model can generate ideas by its very inadequacies. This is the case with the "teachinglearning-using system" representation proposed above:

<sup>&</sup>lt;sup>33</sup> Theoretical models in the human sciences are based on the complexity paradigm (see "The three epistemological paradigms, according to Edgar Morin", Puren 063-en).

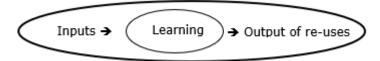
<sup>&</sup>lt;sup>34</sup> In this case, we can speak of "mental praxeologization" (which is a case of what philosophers call a "mental experience"). We will discuss further, in chapter 1.4.3, another form of praxeologization, which I will call "concrete", that carried out by teachers in class at the very moment of their teaching practice.

Fig. 14/1. Systemic model of the teaching-learning-using process



as it could be "paraphrased" as follows:

Fig. 14/2. Systemic model of the teaching-learning-using process



Although systemic, with its inputs and outputs, this model is in fact simplistic: one will realize that, in reality, both teaching and use also give rise to learning: students also learn when they are taught (!...), the inputs give rise to training in oral and written comprehension, and the re-use of new language forms in class constitutes both the final objective of their learning and a form of learning through use.

The representation of the three successive "centrations" presented above, on the teacher, on the material and on the learner, is also insufficient: we should think about everything we have to focus on a daily basis as a teacher in his or her classes, to realize that at certain times we are led to focus on ourselves (our knowledge and skills), on the content and methodology of the textbook, but also at other times on the group, on the objectives pursued, or even on the institutional requirements .<sup>35</sup>

A model can show its relevance beyond the object on which it was developed. During a research on the evolution of the teaching-learning of culture in EFL didactics, I came up with a representation of this evolution in the form of a chronological model of object → subject (cf. *supra* Fig. 10): at the beginning of the reflection on culture in the EFL classroom, the theme was that of "teaching culture", the latter being considered as an "object" in the sense of an objective reality pertaining to knowledge, and being able to be taught as such. The problematic of interculturality, on the other hand, is "subject" (learner) oriented, insofar as we are interested in the representations that the learner has of the foreign culture, and that we seek to change.

But I then realized that this subject-object model also applied to the evolution of other didactic problematics: those of the selection of language contents (from statistical analysis to the consideration of language needs during learning); that of the description of these language contents (from structural grammar to interlanguage); that of cognitive models of teaching-learning (from the traditional model of reception to the model of construction); or again that of methodology (from the implementation of teaching methodologies to "respect for individual learning strategies"). And then I realized that the last didactic orientation, the Social Action-Oriented Approach, extended this shift towards the learner subject, with the emergence of the concepts of "co-language" (the common language of teaching-learning, that of instructions, for example) and "co-culture" (the

<sup>&</sup>lt;sup>35</sup>I refer to my article, "La problématique de la centration sur l'apprenant en contexte scolaire," Puren 1995a.

culture that the subjects themselves adopt or create for their common social action, in particular the **collective** strategy of teaching-learning)<sup>36</sup>.

The two cognitive operations to which the models are subjected -simplification by abstraction in the process of elaboration of the models, and complexification by concretization, *i.e.* by recourse to contextualization and experience in their process of exploitation- are at the same time opposed and complementary. They constitute the approach of "dialogical recursivity" proposed by Edgard Morin in his 1986 book:

Simplification: a) selects what is of interest to the knower and eliminates all that is foreign to his purposes; b) computes the stable, the determined, the certain, and avoids the uncertain and the ambiguous; c) produces knowledge that can be easily processed by and for action.

Complexity, also at the service of the efficiency of the action: a) seeks to take into account the maximum of concrete data and information; b) seeks to recognize and computerize the varied, the variable, the ambiguous, the random, the uncertain.

The vital mission of knowledge thus comprises the double, contradictory and complementary requirement: to simplify and to complexify (1986, pp. 63-64).

This approach can be represented by the following recursive model:

*Fig. 17. Diagram of the dialogical relationship simplification (in the elaboration of the models) - complexification (in their exploitation)* 

simplification $\longrightarrow$ complexification
^

The three characteristic operations of the heuristic function -testing, exploring, manipulatingcorrespond *mutatis mutandis to* what we mean in computer science when we say "**running** a model".

The two functions corresponding to the didactic intervention are the practical function and the heuristic function, but we can see that we have to distinguish them carefully, since in one case it is **a model to reproduce practices**, in the other **a model to produce ideas**.

In the remainder of this first part of this essay, I will only discuss models **in DLC**. It is likely, however, that much of what I will say about them is valid for all didactics, regardless of the discipline being taught.

#### **1.4.** Different types of models in DLC: theoretical, praxeological, practical

#### **Introduction to Chapter 1.4**

I will present the theoretical, practical and praxeological models in succession, as this order seems to me to be the most effective way of presenting the latter, in opposition to the first  $two^{37}$ 

#### 1.4.1. Theoretical models

Theoretical models are process-oriented. They are necessarily the products of modeling, but the interest of this elaboration lies as much in the attitude and the research approach that it implies

<sup>&</sup>lt;sup>36</sup> I refer for this general evolution to my article entitled "Perspective objet et perspective sujet en didactique des langues-cultures" (Puren 1998f), and to Puren 019 for this last evolution in culture didactics.
<sup>37</sup> See also my article 2020a and my essay 2015a, where I use a slightly different typology than the one I present here.

during their elaboration and exploitation, as in the final product to which it leads. The same applies to the exploitation of models: as complexity management tools, they are made to "run" with the new data they are given to process, in order to manipulate ideas (call or combine known ideas differently, generate new ideas, etc.)<sup>38</sup>

Theoretical models have two possible origins. Some are derived from external theories (*i.e.* outside the disciplinary field), others from internal theorizations, *i.e.* carried out by the didacticians within their discipline from their own field data<sup>39</sup>.

#### 1.4.1.1. Theoretical models from external theories

Teachers of language-cultures, because they are confronted with the complexity of their subject and their project, need plural theoretical models that can be combined with each other, not exclusive theories. And they need not, for example, linguistic theories or theories of acquisition, but theoretical models **of teaching-learning** on which to base "practical models". I will take the example of the three most important types of models in DCL, linguistic models, cognitive models and pedagogical models.

#### 1.4.1.1.1. Linguistic models of teaching-learning (grammars)

The importance that grammar has retained in language teaching up to now, to the point where it is sometimes still worked on for its own sake at the expense of actual language practice<sup>40</sup>, can be explained quite rationally by three combined reasons: (1) grammars are historically the origin of descriptions of languages for teaching and learning purposes; (2) from these descriptions of the language it is possible to produce practical models (language exercises) directly; (3) several different grammars are available.

This is true for the so-called "traditional" grammar itself, and this is what explains its extraordinary historical resistance: it is actually based on three types of description -it is a so-called "morphosyntactic" grammar, but one also finds the morphological combined with the notional: one distinguishes adverbs of time, prepositions of place, or subordinate propositions of cause, consequence and concession, etc. Because of its indirect paradigm (cf. *infra* chap. 1.4.3.3), its only production exercise of the traditional methodology was translation, but the direct methodology of the beginning of the XXth century, which continued to use this grammar but in combination with the direct paradigm, had already derived from it the two main types of practical intralanguage models (*i.e.g.* directly in L2) still used today, namely transformation exercises (on the syntagmatic axis of the language, that of the syntax of this grammar) and substitution exercises (on its paradigmatic axis, which this grammar mobilizes for its notional classifications), or their combinations<sup>41</sup>.

Language teachers and textbook authors can currently use a variety of grammars, depending on their needs: morpho-syntactic, notional-functional, textual, enunciation, genres, "intermediate" (*i.e.* interlanguage)<sup>42</sup>. The only relevant didactic question for them is to know when to use each of them, or when and how to combine them in an adequate way.

<sup>&</sup>lt;sup>38</sup> On the different operations that can be performed on concepts, cf. Puren 2013a, chap. 2, "Les formes diverses de l'originalité conceptuelle", pp. *15ff*.

<sup>&</sup>lt;sup>39</sup> See *below*, in the introduction to Part I, the table contrasting "scientific theories" and "didactic models".

<sup>&</sup>lt;sup>40</sup> Cf. the well-known formula for teachers to counter this abuse: "make the language speak, not speak on the language".

<sup>&</sup>lt;sup>41</sup> Cf. in Puren 1988a, p. 81, the quotation from a lecture by G. Camerlynck in 1903, in which he presents these two types of exercises.

<sup>&</sup>lt;sup>42</sup> See Puren 018 for a synthetic presentation of these different types of grammar.

#### 1.4.1.1.2. Cognitive models of teaching-learning

In the history of DLC over several centuries, we can also identify several cognitive models of teaching-learning: the models of reception, activation, reaction, interaction, (co-)construction and action<sup>43</sup>. Each of them has been privileged in the successive methodologies -respectively the so-called "traditional" methodology, the direct and active methodologies, the communicative approach and the actional perspective. If we look at the concrete use of these models in teaching-learning practices, we can see that these didactic models are not only compatible with each other, but that teachers must, in order to manage the complexity of this process as well as possible, keep them all at their disposal: at certain moments, the most relevant for a teacher will be to ask learners to listen to his explanation (reception model); at other moments, to answer questions or to follow instructions (activation model); or to carry out joint actions with others, such as projects or mini-projects<sup>44</sup>, which will lead them, according to their needs in real time, to mobilize all these cognitive models at different times (social action model, which is therefore in reality a cognitive "meta-model").

This requirement is not specific to the DLC field: it is found in everyday life as soon as a complex action has to be performed. I will take as an example the use of a computer. At certain moments (at the beginning of use, or when one encounters a difficulty), the most efficient way is probably to read or reread the instructions, or to ask a friend if he/she has encountered the same difficulty and how he/she solved it (the reception model). But complete beginners will probably benefit from a few hours of training, during which a technician will ask them to perform exercises (activation model), which they can repeat several times at home to practice (reaction model); during this training, they will be able to practice and exchange with other users (interaction model); if they make a wrong manipulation that "crashes" their computer, the most efficient way will not be for the trainer to solve the problem immediately, but for them to become aware with his help of the reason why their computer got stuck (construction model). What would you think of a computer salesman who was asked by a customer to show him how to turn on the computer he was interested in and start the first installations, and who replied: "Sorry, but I am a social constructivist, I am not going to show you anything. Invite some friends, try it with them. Don't worry: if you block the computer, you can take it back to unblock it, and go back home to continue your own trials"? This is what learners should think of a teacher who would require them to learn only by trial and error.

At least two French researchers have proposed a theorization of this necessary diversification of theoretical models in pedagogy and in the didactics of school subjects, André de Peretti and André Giordan.

-In a 1985 article, **André de Peretti**, a pedagogue whose work focused in particular on "differentiated pedagogy" ("*pédagogie différenciée*", in French; the learner-oriented equivalent in English is "open learning"), appealed to the "law of required variety" enunciated by William Ashby, one of the founders of cybernetics, according to which one system can only correctly pilot another if it has a level of complexity at least equal to that of the first. Applied to didactics, this law suggests that the teacher can correctly manage learning only if he/she implements a diversity of methods at least equal to those of all his/her learners<sup>45</sup>.

<sup>&</sup>lt;sup>43</sup> Cf. Puren 016 synthesis table entitled "Évolution historique des modèles cognitifs d'enseignementapprentissage des langues en didactique des langues-cultures", with comments following.

<sup>&</sup>lt;sup>44</sup> See *below*, "Introduction to Part Two," "Introduction to the PBL Model," with its footnote.

<sup>&</sup>lt;sup>45</sup> This is impossible, of course. Hence the need to combine "*pédagogie différenciée*" with open learning (cf. Puren and Bertocchini 2001k).

-In his work since 1989, **André Giordan** on cognitive models of teaching and learning has proposed an "allosteric model" that researchers have presented as follows in an article presenting its application in the classroom: "The term 'allosteric' is taken from the vocabulary of biology, where it designates certain proteins that completely modify their structure under the action of an external factor; they are then effective for the function they have to fulfil. An example is hemoglobin, which can only fix oxygen after having changed its configuration. "(Honorez M. *et al.*, p. 2). In a 1999 article, Giordan presents the practical implications of his model, which functions as we can see as a didactic meta-model:

Constructivist models -based on the idea that the student necessarily constructs his or her knowledge- are too frustrating, too closed. There is not just one way to learn. Let's take an example: to learn how to program a VCR, you can listen to a salesperson, imitate a friend, read the instructions, try it yourself or ask a specialist. When learning a scientific skill, one can watch a video, work in a group, document, develop hypotheses and test them. For some knowledge, such as that of EPS<sup>46</sup>, the learner will still have to practice, move forward by trial and error, dismantle an inadequate practice, question his or her actions or step back to imagine another way of doing things.

All these practices are necessary for learning, they are both complementary and conflicting.<sup>47</sup> What determines the learning of a concept or a task is above all a network of external information interpreted by the individual's thought structure, according to his past experiences and his current project.

#### 1.4.1.1.3. Pedagogical models

Until the end of the 1960s, and even beyond in school didactics, one spoke in France only of "language pedagogy". Following the emergence in France in the early 1970s of DLC as an autonomous discipline taking into account the specificity of the relationship between teaching and learning of its own objects, the field of "pedagogy" was reduced, at least for language-culture didacticians, to the relationship between teacher and learners (cf. Puren 2018h). Pedagogy circumscribed in this way is nonetheless a field of decisive importance. It is impossible, for example, to consider the implementation of any innovation in DLC without taking into account what the research and proposals of pedagogy or, *last but not least*, project pedagogy, the reference pedagogy of the current Social Action-Oriented Approach in DLC. This would justify that these didacticians take an interest, much more than they have done, in theoretical models in pedagogy.

As simple examples of a theoretical model in pedagogy, here is first the adaptation to DLC that I personally proposed (Puren 2019b) of the most well-known pedagogical model in France, Jean Houssaye's (1988) "pedagogical triangle":

<sup>&</sup>lt;sup>46</sup> EPS, "Éducation Physique et Sportive", is a discipline in French school education.

<sup>&</sup>lt;sup>47</sup> I underline: we find here one of the fundamental characteristics of complex epistemology, which consists in thinking of opposites as being at the same time complementary.



Fig. 18. Model of Houssaye's pedagogical triangle revised for DLC

I thus explain on page 46 my additions in red in the center of the triangle.

-The strongest didactic mediation consists in making people learn with a robust and preconceived scaffolding based on knowledge (cf. the dotted arrow at the top in the diagram below): the dominant logic is then that of the "teaching" process.

-The weakest form of didactic mediation consists in simply offering students autonomous learning devices (cf. the dotted arrow at the bottom): the dominant logic is then that of training -in this case, training for learning.

The concept that I have introduced into Houssaye's model is that of a continuum, within the teaching action, between the "knowledge" (the knowledge of the languages-cultures) and the student, which would correspond, in the more traditional DLC terminology, between the "focus on the language-culture object" and the "focus on the learner". But -and this is the second example of a pedagogical theoretical model that I will point out here- taking complexity into account in DLC requires not limiting oneself to the continuum mode, and having plural modes of relationship such as those I proposed in the paper entitled "Un 'méta-modèle' complexe: typologie des différentes relations logiques possibles entre deux pôles opposés" (Puren 022): continuum, opposition, evolution, contact, dialogic, instrumentalization, and framing<sup>48</sup>.

#### 1.4.1.2. Theoretical models from the internal theorization of DLC

These models are constructed, according to the approach described in Huberman and Miles 1991 (cf. its presentation *supra* chapter 1.1), on the basis of data collected, within the framework of the discipline constituted, by analyses of textbooks and other teaching materials, in the official instructions of school education, articles and books by methodologists and didacticians, teacher training programmes, etc. These are models that can perform the same functions as those presented in Chapter 1.3 "Different functions of models", but they relate to the didactic discipline as such.

This is the case for the historical model of the different perspectives that make up the DLC (see *above,* chapter 1.2.6):

Fig. 13: Historical evolution of DLC constituent perspectives

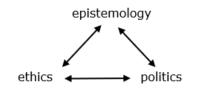
methodological perspective perspective didactological perspective perspective

<sup>&</sup>lt;sup>48</sup> In this paper, this meta-model is applied not only to the teacher-learner relationship, but to the supervisor-student-researcher relationship, and teaching cultures-learning cultures.

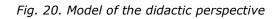
Based on the idea that the best way to train a DLC teacher was to take him or her back through the historical stages of successive complexification of the discipline, I have "rotated" this model in pre-service DLC university training, so as to generate a "Architecture générale d'une formation universitaire à la didactique des langues-cultures" (title of Puren 2010a). I similarly used this model to develop the eight-file outline of my online course "La didactique des langues-cultures comme domaine de recherche" (Puren DLC-DR).

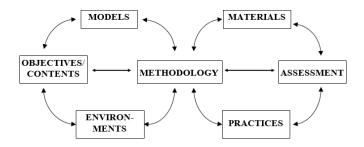
The didactological perspective, whose essential positions are epistemological, ethical and political (cf. *supra* chap. 1.2.6), can be represented by the following network model, bringing into play the principle of the necessary relationship between these three positions:

Fig. 19. Model of the didactological perspective



Years ago I also proposed a model that I induced at the time of my research on the history of methodologies (Puren 1988a), this time representing the didactic perspective. This field is made up of all the "meta-methodological" positions, i.e. from which the methodology can be questioned: these are the models, the objectives-contents, the environments, the materials, the practices and the evaluation:





This model of the didactic field provides a good example of the heuristic function of models<sup>49</sup>. After its elaboration, the left-hand side of the model corresponded to the process of elaboration of the constituted methodologies, the right-hand side to their process of use. We can also inscribe a historical evolution: for the elaboration of methodologies, we have successively privileged models (e.g. linguistic models in the so-called "applied linguistics"), objectives (this is the case in the so-called "specific objective" courses such as FOS and FOU<sup>50</sup>), and finally environments, as in the Social Action-Oriented Approach, whose didactic sequences will essentially depend on the actions that the learners will be able to conceive and carry out in their school and social environment.

Finally, if we consider the whole diagram of this model as a world map, this diagram represents a sphere with two poles between which DLC has constantly oscillated, and which I have named the "revolutionary" pole and the "managerial" pole.

<sup>&</sup>lt;sup>49</sup> I summarize the ideas that I have already presented, with this model of the field of the didactic perspective, in my *Essai sur l'éclectims* (1994e, chap. 1.4.5., pp. 35-38).

<sup>&</sup>lt;sup>50</sup> FOS « Français sur objectif spécifique », FOU « Français sur objectif universitaire ».

-*The "models-materials" pole*: based on new theoretical models (linguist, cognitive and/or pedagogical), a new methodology and new textbooks are developed; teachers are then required to modify their practices and didactic environments; in this polarization, the "good teacher" is the teacher who innovates by following the latest developments in the discipline.

-*The "environments-practices" pole*: on the contrary, the necessary diversity of teachers' practices as they are necessary to manage the complexity of their work environments, as well as the established practices of teachers as they have adapted them to their environments, are privileged; there is then a tendency to minimize the importance of theoretical models and manuals, or even to reject them; in this polarization, the "good teacher" is the one who is able to develop his own course sequences.

We will see further on, in chapter 1.4.3.1, that the theoretical models can be used to carry out operations of "mental praxeologization", that is to say that one can make them "turn" on the data of one's personal experience as a teacher, which one will mobilize for the occasion. What I have just done is, in a way, to make the model of the didactic field "turn" on itself, so as to perceive it successively under different forms<sup>51</sup>.

#### **1.4.2. Practical models**

I have already given above (in chap. 1.4.1.1.1) the example of the substitution and transformation exercises of the direct methodology, created from the two axes of language, syntagmatic and paradigmatic, already exploited in the so-called "traditional" morphosyntactic and notional grammar. In the 1950s-1960s, DLC drew from behaviourist theory the theoretical model of "stimulus  $\rightarrow$  response  $\rightarrow$  reinforcement", and from distributionism the theoretical model of 'analysis in immediate constituents'<sup>52</sup>, and combined them to create the practical model of structural exercise in the laboratory (cf. *below* in chapter 1.2.8 the systemic representation of this model). All types of exercises and classroom techniques are practical models, such as simulation in the communicative approach and all other "experiential" techniques-singing, acting, drama, etc.-that aim to make learners "live" the L2 in the classroom (see Puren 2021c).

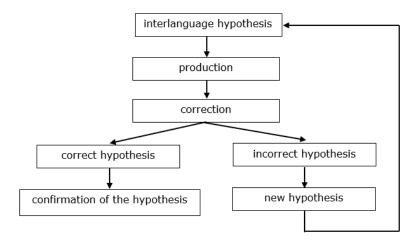
Another historical example: in the 1980s, DLC borrowed the following theoretical model from constructivist theory, called "learning by trial and error"<sup>53</sup>:

<sup>&</sup>lt;sup>51</sup> For another mental experience of this type, which concerns different ways of representing the same evolutions of the DLC on the didactic sphere in terms of continuities, ruptures or circularities, cf. Puren 1990c.

<sup>&</sup>lt;sup>52</sup> For further details, see Puren 1988a, pp. 196-199.

<sup>&</sup>lt;sup>53</sup> In this model, a form of recursivity (or "looping") is iteration: the same operation (here, the formulation of a hypothesis) is repeated identically until it is successful. In projects, the most frequent form of recursivity is feedback: modified repetition of the same task or of a previous task, or even addition of a task, according to an evaluation during the project. The erroneous hypothesis will be followed here, for example, by consultation of a grammar.

#### Fig. 21. theoretical model of constructivist origin "by trial and error



Based on this theoretical model, DLC devised a variant of a practical model of direct methodology -which consisted of having students induce the rules of the language on corpora of correct sentences- namely, the exercise of conceptualization by learners of their own errors, with the objective of making them aware of the erroneous or insufficient rule they have used.

Like theoretical models, practical or "methodological" models are not mutually exclusive: *a priori*, the structural exercise is no less relevant than the exercise of conceptualization of their errors by the learners, because the acquisition of automatisms is just as necessary for learning as the understanding of the provisional rules of interlanguage. The only didactic error is not using the right model at the right time in the right environment. The only certainty that a teacher can have in this matter is that he must diversify his practices. It is even a matter of professional ethics: since some practices are necessarily more appropriate for some learners than others, any exclusivity or even privilege given to some models over others will benefit some learners and disadvantage others<sup>54</sup>. One of the 'laws' of DLC is surely that 'there is only one wrong way, and that is the one way'.

The "practical" models deserve this qualification because they are implemented in classroom practices, but also -in the other sense of "practical", i.e. "convenient"-, because they can be reproduced as they are and in a punctual way to manage precise and concrete problematics to which they can immediately bring a satisfactory solution: this function is precisely called "practical" in the typology of functions presented *above* in chapter 1.3.

In DLC, three different levels can be distinguished in practical or "methodological" models:

-**The micro-methodological level** is that of "methods" in the sense of minimal units of methodological consistency. Each pair (active and transmissive methods, inductive and deductive methods, etc. Each pair (active and transmissive methods, inductive and deductive methods, etc.: cf. table Puren 008) constitutes a methodological micro-model offering the teacher, at all times, one way of doing things or the opposite way. But in the practice of teachers, there is constantly a combination of several methods: constantly, for example, the teacher teaches (transmissive method) or makes learn (active method), and this happens either orally (oral method) or in writing (written method), or by articulating or combining the two<sup>55</sup>. The so-

<sup>&</sup>lt;sup>54</sup> Cf. Puren 1994b, p. 4.

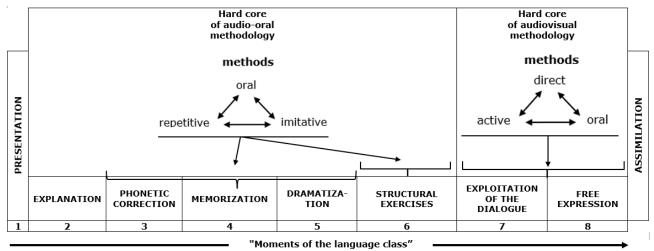
<sup>&</sup>lt;sup>55</sup> The oral and written methods are combined, e.g., when he dictates a set of instructions to a group of students for them to write down, or when he has them orally comment on a written document. He or she articulates them when he or she has students prepare a short summary orally, before writing it down or having it written on the board.

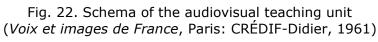
called "global approach to documents" in class corresponds to the primary use of the synthetic method, but it is also done in the active method: if the teacher uses this approach, it is precisely because he wants the learners to be active on the document immediately after its discovery. If he does this on a written document worked on collectively in class orally, there will also be, in the micro-methodological design of this sequence, a combination of the written method and the oral method<sup>56</sup>.

-**The macro-methodological level** is that of the great historical methodologies, each of which claims to provide a coherent set of the best possible answers to all the methodological questions. The didactic units of each textbook are all built on the same model, and consequently each of them is supposed to take up the global coherence of the methodology the authors claim.

-**The** intermediate, **"meso-methodological" level**, therefore, is where the hard cores of the direct and audio-oral methodologies are located (their models are presented *above* in chapter 1.1), but also the approaches, procedures<sup>57</sup> and other methodological "objects" or "components" (cf. Puren 2012f) that can be identified within the constituted methodologies, and which are for some of them, moreover, "copied and pasted" from one to the other, as can be the same lines of code in two different computer programs.

A good historical example of these copy-pasted methodological components is provided by the design of the didactic unit of the French audiovisual methodology, whose meso-methodological analysis shows that it was built on the basis of the succession of the two practical models available at the time, namely the hard core of the American audio-oral methodology and the French direct methodology<sup>58</sup>:





Thus, we always find methodological components taken up identically from one constituted methodology to another. These borrowings even constitute a regular process of elaboration of the great historical methodologies in DLC (cf. Puren 1988c): the direct explanation of the lexicon model, for example, developed in the direct methodology of the beginning of the XXth century,

Source: Puren 011

<sup>&</sup>lt;sup>56</sup> In my article Puren 2011k entitled "La méthode, outil de base de l'analyse didactique", I offer several examples of micro-methodological analysis of micro-sequences of classroom practices.

<sup>&</sup>lt;sup>57</sup> On this terminology, see the Glossary Puren 004.

<sup>&</sup>lt;sup>58</sup> This diagram is proposed in Puren 011 with the definition of each phase on the second page.

has been "copied and pasted" as it is in the "software" of the audiovisual methodology and of the communicative approach; the "explanation of texts" model of the active methodology, with its different cognitive operations (to locate, to analyze, to interpret, etc.), serves until now as a methodological matrix for the teaching of language-culture from the beginning of the XXth century, cf. Puren 041-en), has so far served as a methodological matrix for teaching language-culture from authentic documents, and is even found, with ultimately minor variations, in the design of the PIRLS and PISA reading comprehension tests (cf. Maurer and Puren 2019, pp. 64-66 and pp. 212-215)<sup>59</sup>.

These methodological components can also be used by teachers in the classroom autonomously, by -to take a metaphor from computer science, from which I have borrowed the concept of "object"- "copying and pasting" them into their personal classroom software. In this way, they can use song, play, drama, and other "experiential techniques" (cf. Puren 2021c) independently of the methodology they follow or have composed for themselves.

At this meso-methodological level:

-or teachers reuse an available combination or articulation of methods: for example, when learners conceptualize a grammar rule themselves and then apply this rule themselves in an application exercise, there is a combination of the inductive method and the active method, and then a combination of the deductive method and the active method: this is then a practical model insofar as these combinations and articulations are fixed and reproduced identically in classroom practices<sup>60</sup>;

-or the teachers carry out in class an original combination or articulation to prepare "concretely" a class sequence or to adapt in real time in class to their students: they then perform what I propose to call a "concrete praxeologization"<sup>61</sup> from their knowledge, experience and work environment; for example, they have initiated a grammatical conceptualization sequence in class by the students themselves, but when the students fail to do so, they finally state the rule themselves by explaining how the students could have discovered it, and then they continue as they had planned in advance, with an application exercise.

Copying and pasting practical models into their classroom practices allows teachers to reduce the level of complexity of their classroom management (both in the preparation and in the realization of their sequences in class), while ensuring a certain efficiency, even if limited and punctual. These copy and pastes can even be found among "reflective practitioners", who have as much need as beginners to lighten their cognitive load through automatisms, in order to be able to devote themselves to costly, high-level cognitive tasks, such as observing and

<sup>&</sup>lt;sup>59</sup> One can also refer to my slide show Puren 2022g, in which I proposed a list of the components currently available (slide n° 31, with a bibliographic reference for each of them), indicating in the following slide (n° 32) those which were borrowed by the designers of the communicative approach from the previous methodology, called "active".

<sup>&</sup>lt;sup>60</sup> The proof of this is that my DLC students always had difficulty imagining what the sequence inductive method + transmissive method could correspond to, because they could only imagine the inductive method combined with the active method: their field instructors always asked them to have the rule induced by the students themselves. However, the teacher can perfectly well state the rule himself in front of his pupils by showing how he induces it from a corpus of sentences that he has written on the board. And he will do so in a very relevant way, because it is appropriate to the situation, if he wants to show them one day what the inductive method consists of, or, regularly, if the pupils do not manage to state the rule themselves under these conditions: the active method and the transmissive method are, like all pairs of methods, both opposed and complementary (cf. again Puren 008)

<sup>&</sup>lt;sup>61</sup>I will come back further on this concrete praxeologization in chapter 1.4.3.2. It differs from the "mental praxeologization", which I will present first, in chapter 1.4.3.1.

interpreting students' reactions in real time, or immediately evaluating the effectiveness of their practices<sup>62</sup>.

#### **1.4.3.** Praxeological modeling

Praxeological models combine the practical and the heuristic function: they are both processoriented (they are developed by teachers themselves to prepare their classrooms or adapt their classroom practices to their environments in real time) -and product-oriented- they are then used by them for this preparation or adaptation. This sub-chapter title ("praxeological modeling"), however, emphasizes the process (modeling) and not the product (models), because praxeological models, unlike theoretical models and practical models, are not stable and permanent, but ephemeral: they are indeed generated by teachers to manage their "praxis", by means of an operation precisely called "praxeologization".

The concept of "praxis" has a long history in the history of ideas, since it already appears in Plato and Aristotle, and it has been very much mobilized in the last century in political philosophy and in the philosophy of education, two domains that are sometimes strongly linked, as in the work of the Brazilian pedagogue Paulo Freire (1972). This concept of "praxis" does not always have the same meaning according to the authors. I will define it here, in a way that seems to me most relevant to the field of DLC, as a reflective action on reality,

-taking into account both the ideas that guide it (in that it has to do with theory) and the concrete constraints of this reality and the concrete effects of the activity on this reality (in that it has to do with practice);

-and transforming both the ideas and the practices of the actor himself in a recursive logic (the praxis transforms the agent, who in return modifies his praxis, etc.).

The concept of "praxeological model" corresponds exactly to that of "practical theory" proposed by É. Durkheim, when he defines it in the following way, just after the lines already quoted above from his 1992 book:

Instead of acting on things or on beings according to determined modes, one reflects on the processes of action which are thus employed, with a view not to know them and to explain them, but to appreciate what they are worth, if they are what they should be, if it is not useful to modify them and in what way, even to replace them completely by new processes. (p. 88)

I have already discussed the concept of praxeologization twice above:

-In Chapter 1.3, entitled "Different Functions of Models," I pointed out that praxeological models combine the practical and heuristic functions: these models are used in the management of practice, but they are the result of real-time model manipulations in the classroom intended to develop the best model to implement in context.

-At the end of chapter 1.4.1.2, I talked about the first form of praxeologization, "mental praxeologization", which consists in "running" a theoretical model by mentally mobilizing one's knowledge and practical experiences as a teacher.

In the first sub-chapter, I will give several examples of mental praxeologization; in the second sub-chapter, I will deal with the second form of praxeologization, the "concrete praxeologization", the one that one carries out to prepare one's practice before the class or to

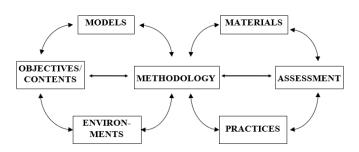
<sup>&</sup>lt;sup>62</sup> For a didactic analysis of the relationship between professional competence and automatisms, see Puren 1994d.

adapt it in real time on the field. I will then give a historical example (that of the "grammar-translation" hard core of traditional methodology), and I will end this chapter 1.4.3 by underlining the importance of praxeologization training in teacher training.

#### 1.4.3.1. The "mental praxeologization

As announced above in chapter 1.4.1.2, the theoretical models can be used to carry out operations of "mental praxeologization", that is to say that one can make them turn on the data of one's personal experience as a teacher, which one will recall to one's conscience for the occasion. I reproduce below, for the convenience of the reader, the theoretical model of the didactic perspective already presented in this chapter 1.4.1.2:

Fig. 20. Model of the didactic perspective



The "mental praxeologization" operation will consist in asking all the questions whose answers are likely to condition the preparation of the corresponding lesson sequence, and probably also partly the management in real time, because part of the prepared answers will probably have to be adjusted in real time on the field. For example, the following questions are some of those that the teacher must ask himself before, and during, the class work on a document; they start from the different positionings of the field of the didactic perspective, namely (the questions indicated below are only examples among many others possible):

-**pedagogical models** (how much room will be left for the learners' initiative?), **linguistic models** (will we use morpho-syntactic grammar alone? textual grammar? enunciative grammar?), **methodological models** (will we use experiential techniques?);<sup>63</sup>

-the **objectives** (is it going to be a scan reading, an in-depth reading, a reading as a pretext for exchanges between learners) and the **contents** (what is the level of difficulty of the text, what is its interest for the learners, is it a specialised text, a literary text?);

-the **environment**: what system will be proposed to the students (individual work or group work, how much time will be allocated to this activity, what aids will be made available, etc.)<sup>64</sup>;

-**materials** (they can be considered as part of the environment, but they are also tools): will we use the didactic material (questions, instructions, explanatory notes) proposed on this text in the textbook, with the accompanying illustrations, will the learners have dictionaries at their disposal?

-**practices**: are we going to use a technique, or an approach already known to the students, or are we going to train them in new practices? are we going to propose differentiated practices?

<sup>&</sup>lt;sup>63</sup> I have published a lengthy historical review of how they look in different constituted methodologies (Puren 2017f).

<sup>&</sup>lt;sup>64</sup> Cf. the glossary entitled "Le champ sémantique de l''environnement' en didactique des langues-cultures", Puren 030.

-**assessment**: what assessment of the learners' skills and motivation to approach the material is available, are the levels heterogeneous? will the students be told in advance what the assessment will be after the sequence? will it be formative or summative, done by the teacher or by the students themselves?

This activity of "mental praxeologization"<sup>65</sup> is particularly useful for teachers when they prepare a class sequence: it allows them not to "prepare their class", but to "prepare to teach". It is similar to what philosophers call a "mental experiment": on the basis of their didactic knowledge and experience, teachers thus "turn" the model of the didactic field on the question of the didactic treatment of documents, so as to produce a maximum of methodological questions. Due, in particular, to the "instability-predictability" component of the complexity<sup>66</sup>, the competence of the teachers depends in fact first of all on the number of questions they are able to ask themselves, since the higher this number is, the more they will be able to select in context the right question, a necessary precondition to give then the most adequate answer. This requirement of multiplicity of generated questions and available answers also applies to the models themselves, hence the interest in having alternative models, as well as those metamodels that we have seen above: *cognitive, linguistic* and *pedagogical*. The set of major historical methodologies, as long as we consider each one as a currently available matrix, provides a fourth type of meta-model useful to the teacher, *methodological* (cf. Puren 073-en).

The opposite operation, i.e. the elaboration of a model from the multiple questions that can be asked during a case study, is just as interesting in teacher training: a model is all the richer, and therefore all the more potentially heuristic, if it has been elaborated from a maximum of questions, which the didactic students will be able to research collectively<sup>67</sup>.

#### 1.4.3.2. The "concrete praxeologization

Concrete praxeologization consists of the teacher combining or articulating theoretical and/or practical models in the course of classroom preparation, or in real time.

I have already given a concrete example of this at the end of chapter 1.4.2: the teacher has launched a grammatical conceptualization sequence in class by the students themselves, but as they do not succeed, he immediately decides to state the rule himself, explaining how they could have discovered it, and he continues as he had planned in advance, with an application exercise. In this case, the real time adaptation was done by a micro-methodological manipulation, passing in transmissive method the conceptualization phase, which the teacher had planned to do in active method as the standard practical model foresees.

<sup>&</sup>lt;sup>65</sup> In Puren 044, we find two other examples of mental praxeologization based on this same model of the field of didactic perspective: 1) Learners have not managed to assimilate a grammatical structure that their teacher has introduced, explained and made them work on like the others, and he wonders about the possible reasons for his failure. 2) A DLC student is looking for as many possible answers as possible *a priori to the* question he has given himself as a research topic: "How to motivate students to work in listening comprehension? This type of activity calls for introspection, which is still generally criticized as "too subjective", but which I believe has its place in a DLC research process at the time of the initial problematization.

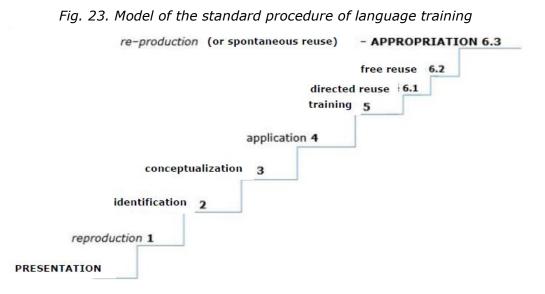
<sup>&</sup>lt;sup>66</sup> See the presentation of the components of complexity in the general introduction.

<sup>&</sup>lt;sup>67</sup> I give an example (personally imagined) in Puren 1999g, chap. 2, "Comment théoriser sa pratique?", point 2.3, "Petite séance de travaux pratiques de théorisation": it is the elaboration of a theoretical model of the origins of the teachers' personal methodology. This case study also shows the interest in moving progressively, in the course of modelling, towards more and more complex forms of models (in this example, from the series model to the network model).

Here are two more examples of concrete praxeologization:

-Let's imagine that a teacher notices that some students "block" on a structural exercise in the laboratory because they feel the need to understand the rule at stake, or that the students explicitly ask him for this explanation. He then interrupts the session to ask them to conceptualize the rule themselves by listening to a few stimuli and correcting the answers to the exercise, which will serve then as a corpus for reflection. The teacher finally asks them to repeat the structural exercise as planned; or the learners, satisfied that they have understood, repeat the mechanical reproductions of the language model of the exercise on their own. In this class sequence of a few minutes, the model of the structural exercise "recorded stimulus  $\rightarrow$  learner's response  $\rightarrow$  expected response recorded  $\rightarrow$  learner's repetition of the expected response"<sup>68</sup> will thus have been replaced for a while by the model "recorded stimulus  $\rightarrow \emptyset \rightarrow$  recorded response  $\rightarrow$  learner's conceptualization", before the structural model is resumed.

This sequence thus realized corresponds to very numerous concrete praxeologizations of the standard model of exercising, which I have presented at length in an entire article (Puren 2016c-en):



A training exercise is momentarily interrupted by a conceptualization exercise.

But one can imagine that after the conceptualization phase, the teacher checks the understanding by asking his students to produce some application statements. The praxeological model realized then would be the following:

# Fig. 24. training-conceptualization-application model training $\rightarrow$ conceptualization $\rightarrow$ application $\rightarrow$ training

-This model of the standard procedure of language practice can give rise to even more variations than the grammar-translation model (cf. the following chapter 1.4.3.3), since it includes more elements, and to radical variations. For a grammatical structure that the teacher does not know whether or not the students know it, and at what level, the teacher can thus, in a perfectly rational way, plan a directed reuse at the very beginning of the work, for diagnostic assessment purposes.

<sup>&</sup>lt;sup>68</sup> The correct answer given by the learner, listening to the same recorded answer and then repeating it by the learner are supposed to constitute reinforcement.

-Based on this same model of the standard procedure of language practice, I have personally designed for students, in a Spanish textbook I directed, a device for grammatical revision in complete autonomy with self-correcting exercises of location/recognition, conceptualization and training, among which the students will circulate themselves according to their results. After an application exercise on which they realize that they have made many mistakes, for example, they are invited to do the corresponding conceptualization exercise (cf. Puren 2001i, en coll.). In a perspective of learner empowerment, it is thus the *a priori* rational order of the theoretical model<sup>69</sup> that is reversed in its praxeological realization, as would be done by an experienced classroom teacher<sup>70</sup>.

## *1.4.3.3.* An example of concrete praxeologization of the grammar-translation model in the long historical period

The grammar-translation methodology, because it lasted at least three centuries (from the XVIIth century to the end of the XXth century) and because it had to adapt to purposes and objectives as different as those of the school teaching of dead languages (Latin and ancient Greek) and of the practical teaching of living languages to adults, provides a good example of collective model manipulation in the long historical duration. This methodology was very much constrained by its three main principles: transmissive pedagogy (we learn knowledge mainly by receiving it from the teacher), the indirect paradigm (speaking an L2 is an instantaneous L1  $\rightarrow$  L2 mental translation, so learning this speaking can only be a translation training) and the rationalist paradigm (an efficient and sustainable learning of a language can only be based on what is rational in the language, *i.e.* its grammar. This has not prevented textbook authors, by manipulating the grammar-translation model in every possible way, from developing very different types of didactic units, some of them of great complexity.

The first official French instruction giving methodological advice to school teachers was published on September 18, 1840:

The first year, as I have already said, will be devoted entirely to grammar and pronunciation. For grammar, the students will learn by heart for each day of class the lesson that will have been developed by the teacher in the previous class. The exercises will consist of versions [L2  $\rightarrow$  L1] and themes [L1  $\rightarrow$  L2], where the application of the last lessons will be encouraged. The exercises will thus follow the lessons step by step, will make them better understood, and will inculcate them more deeply. As for pronunciation, after having explained the rules<sup>71</sup>, the ear of the students will be accustomed to it by frequent dictations, and the dictated pieces will be learned by heart and recited appropriately. Finally, in the last months of the year, easy prose authors will be explained.

<sup>&</sup>lt;sup>69</sup> We can speak of a "theoretical model" in relation to this model of language training procedure, because even though it was developed empirically within direct methodology, in the 1900s, it appears to be rational in terms of the progression of the cognitive difficulty of tasks. This progression is, moreover, very comparable to the one that Bloom will propose much later in general pedagogy.

<sup>&</sup>lt;sup>70</sup> Another example of praxeologization (without this concept being used) can be found in Puren 2022f, pp. 21-22: these are the simplifying modifications that a teacher will certainly apply most of the time, due to lack of time, to a theoretical model of error correction based on both active methods (the teacher solicits as much as possible the activity of the students themselves) and socio-constructivist theory (the teacher asks the student to explain the error and/or the correct form so that he/she makes explicit his/her more or less conscious rules of construction of his/her interlanguage). This model is even often inhibited: the teacher surely does not correct in real time all the oral errors of each of his students in class...

<sup>&</sup>lt;sup>71</sup> Note the effect of the rationalist paradigm for the conception of the teaching of pronunciation, as for the teaching of grammar: the only conceivable method is the deductive method.

The first translations, as we can see, only have the function of applying the rules of grammar (which logically gives priority to the theme over the version). On the other hand, when the teacher moves on to the explanation of the authors, grammar only intervenes as an aid to understanding the texts, which is done by means of the version. The two models implemented in this instruction are therefore as follows (in the diagram, the order of the elements corresponds to the approach, with upper or lower case letters representing their respective importance):

1) GRAMMATICS  $\rightarrow$  translation L1 $\rightarrow$  L2 2) TRANSLATION-L2 $\rightarrow$  L1  $\rightarrow$  grammar

The model is therefore completely reversed over time, both in terms of the order of the elements, the respective importance of each of them, and the type of translation (theme or version) preferred.

In the teaching of languages to adults over these three centuries, an analysis of the textbooks reveals all the possible manipulations of the basic binary model "grammar-translation". I present them thus in my *History of Methodologies*, with examples of the titles of 12 corresponding textbooks, whose first editions or reprints range, for all models, from 1678 to 1878 (Puren 1988a, p. 44):

-GRAMMAR – translation -translation – GRAMMAR -grammar – TRANSLATION -TRANSLATION grammar

But the didactic units of traditional adult textbooks of the time can be even more diverse, as the articulation of different variants of the grammar-translation model within the didactic units provides virtually unlimited possibilities for manipulation. Here, for example, is the structure of the didactic units of one of the most famous textbooks of the time, T. Robertson's *Cours de langue anglaise*, whose model, the "Robertson Method", was reproduced at the time for German, Italian, Spanish, French, and even for Latin. This structure of the didactic unit is schematized by me below from the methodological advice given in the preface of the version for Italian, the *Cours de langue italienne* by V. Vimercati (1<sup>st</sup> ed. 1846). This is a good example of concrete praxeologization carried out by a textbook author on the theoretical model of "grammar-translation":

1. translation	→ 2. grammar	→ 3. TRANSLATION	➔ 4. GRAMMAR	→ 5. Translation
The teacher reads the text that begins the lesson once. He then has the students read the text until they pronounce it satisfactorily <sup>72</sup> . [] The teacher then translates the text	some explanations of pronunciation and syntax, which he develops more or less, as he deems appropriate, insisting particularly on the most essential rules and whose	French, and the student translates	Finally, if the teacher has repeated the grammatical explanations contained in the second division	he gives the student, as an assignment to be done in the interval from one lesson to another, the theme that ends the lesson under the title of exercise.

*Fig. 25. A historical example of praxeologization of the "grammar-translation" model* 

Source: Puren 1988a, p. 62

It should be noted that the author has even provided for a margin of autonomous praxeologization on the part of the teacher: cf. "if the teacher has repeated the explanations", "according to what he or she deems appropriate". The complexity of this model of didactic unit, which is increased by taking into account the possible adaptations by the user teachers, undoubtedly explains the international success, at the time, of this "Robertson Method".

### 1.4.3.4. Praxeological modeling and teacher training

Praxis is the mode of practice adapted to the management of complexity. Long practical experience leads some teachers to reduce this complexity by fossilizing the practical models they use; it leads others, on the contrary, to progress in their adaptability by increasing their capacity to praxeologize their theoretical and practical models. Every language teacher has his or her own practical models of L2 teaching, but if he or she is a "reflective practitioner" –according to Schön's famous expression in the title of his 1983 book-, these models are modified, in his or her praxis, by confrontation between his or her "experiential knowledge" and the emerging needs of his or her work environment: praxeological models are the models that a reflective teacher has actually put into the classroom concretely at a given moment, but which are likely to be reproduced as well as reconfigured thereafter<sup>73</sup>: they possess, in other words, the characteristic of instability that they have borrowed from complexity, precisely to adapt to it.

<sup>&</sup>lt;sup>72</sup> Cf. the importance given to pronunciation alongside grammar in the 1840 instruction cited above.

<sup>&</sup>lt;sup>73</sup> See, in the Puren 2022f essay, chapter 4.1.3.3 entitled "Du modèle-procédure au modèle-process... et l'inverse, dans les pratiques de classe quotidiennes", with the few examples proposed.

We can therefore understand why training in the mental praxeologization of practical or theoretical models is of particular interest in initial teacher training, or conversely, in in-service training, the conceptualization of concrete praxeological operations carried out in the classroom by teachers who subsequently analyze their own practices on video recordings<sup>74</sup>: these activities train them "concretely" in the remodeling that they have to carry out when they prepare their classes and when they are in the field.

Whether in initial or continuing education, the interest of theoretical models is their very abstraction, because their level of productivity in terms of praxeological models is directly related to their level of abstraction. I will take the example of the following very concrete model.

### *Fig. 26. hypothesis-validation model (journal article)*

hypotheses made by the learners from the proposed title of a newspaper article  $\rightarrow$   $\rightarrow$  validation of hypotheses when reading the text

It can only be used for didactic treatment of journalistic articles.

Here is an abstract version of the same model:

*Fig. 27. Active reading model* Active reading situation→ active reading "

This second model allows teachers, precisely because it is made up of abstract and not concrete concepts, to conceive various forms of praxeologization: the setting in a situation of active reading can just as well be done, according to what the teacher will judge the most adapted according to the type of document, starting from hypotheses on key words, on the first lines of a novel, on the presentation of the situation in which the writer was and of his communication intentions on a few sentences summarizing the content of the text, on the image that illustrated the document in the original publication, on the visual aspect of the blocks of text, on the format of the document, on the place where the document is displayed, on the support on which it is pasted, etc., and from the multiple possible combinations of several of these cues. An even more abstract model would extend the active reading of a text to the active approach of any type of document: photos, statistical tables, diagrams, etc. Hence one of the laws of DLC, the statement of which generally surprises students of this discipline (and unfortunately even many teachers with years of practice, those who appreciate the most concrete presentations in conferences and other pedagogical days). This law is: "The more concrete it is, the less transferable it is".

#### **Conclusion of Chapter 1.4**

Models can be developed, used and manipulated in a variety of ways to fit the complexity of the objects they represent:

-We have seen in chapter 1.3 that the same models can be used with different functions: cognitive, pedagogical, practical and heuristic.

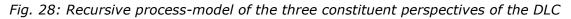
-The same data can be represented in different forms. I have shown, in chapter 2.3 entitled "Petite séance de travaux pratiques de théorisation" (Puren 1999h), in connection with a reflection on the origin of each teacher's personal methodology, the interest, precisely, that the reflective passage from one form of modeling to another generates a process of mobilizing other ideas and even discovering new ideas.

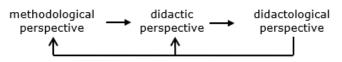
<sup>&</sup>lt;sup>74</sup> Training practice proposed by Durand M. and Filliettaz L. (2009, p. 92).

-The same model can combine different forms. Correspondence models, for example, are generated by crossing two or more series models. The model of the pedagogical triangle, which we saw in chapter 1.4.1.3, combines a cartographic model (the triangle with its three points) and a network model (the teacher-knowledge, teacher-student and student-knowledge relationships), and my personal additions combine two models of the same forms: a cartographic model of the positionings between student and knowledge, and a network model, that of the teacher-student-knowledge relationship.

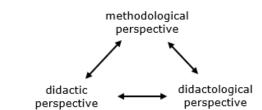
-The same model can take different forms. If we consider that in DLC we have constantly moved from an object perspective to a subject perspective (a thesis that I defend in my article Puren 1998f), the cartographic subject-object model (cf. chapter 1.2.5 *above*) is transformed into a historical model (cf. chapter 1.2.6 *above*). We have seen in chapter 1.2.6, the historical model of the three constitutive perspectives of the DLC:

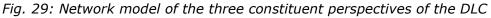
I have argued elsewhere for the value of taking up these perspectives as a progression in the academic training of DLC students, which amounts to transforming the historical model into a process model. I have argued for the value of taking up these perspectives as a progression of DLC training, which is equivalent to transforming the historical model into a procedural model: cf. my proposal for "Architecture générale d'une formation universitaire à la DLC", Puren 2010a. I also think it would be interesting for student researchers to link the three perspectives in different parts or chapters of their work, which would be equivalent to transforming the model, this time, into a recursive process model:





A teacher-researcher may have an interest in combining the three perspectives in the most complex approach possible to a given problem, the model then being transformed into a network model:





-Finally, the same models can be used with different epistemological statuses: theoretical, praxeological or practical. Thus, the structural exercise was considered in the 1950s and 1960s as a theoretical model validated by two scientific theories, behaviourism and distributionism. It then became, logically, the only type of grammatical and lexical exercise proposed by certain didacticians and authors of teaching materials<sup>75</sup>. But other teachers have considered it as just

<sup>&</sup>lt;sup>75</sup> At the time, "teaching machines" were even developed, *i.e.* programs of structural exercises in the language laboratory which constituted, from the beginning to the end of the course, the only and unique mode of teaching-learning. This prestige of structural exercises, unparalleled in the history of DLC, can be explained by an exceptional conjunction, at the time, of different factors: didactic, theoretical, technical and ideological (see Puren 2006f).

another practical model of language training, and they have then just as logically used it for training exercises alongside the other exercises of the standard training procedure. Finally, as we have seen above with regard to the model of the audiovisual didactic unit, it could be used as a component of a praxeological model in the course of developing this methodology.

The development of school didactics, with its numerous university researchers and trainers, means that few practical models have escaped theorization *a posteriori*, even those that had no need of it<sup>76</sup>: This is the case, for example, when some language-culture didacticians have in my opinion abusively qualified the grammatical structures to be conceptualized as "epistemological obstacles", thus mobilizing, explicitly or implicitly, but in all cases unnecessarily, a key concept of Bachelardian epistemology borrowed from specialists in the sciences of education, who had themselves borrowed it from the didacticians of mathematics<sup>77</sup>. Or again, when the same constructivist theory was mobilized to give a scientific coloring to oral interaction between students in the communicative approach by interpreting it as a "co-construction of meaning", whereas from a strictly didactic point of view it is of purely empirical origin: it is the simple application of the principle of end-medium homology at work since traditional methodology: the teacher teaches how to communicate by making the learners communicate with him and among themselves in class.

### Conclusion of the first part

The conclusions that seem to me to be logically imposed following this long analysis of DLC modeling are the following, strictly limited to those mobilized in the critique of the PPP "model" in IDE that I will develop next, in the second part of this essay<sup>78</sup>:

1. DLC research, whether it is that of teachers preparing their classrooms or striving to adapt their teaching practice in real time, that of textbook designers, that of teacher educators or that of researchers, consists in producing or exploiting numerous models in order to be able to manage the fundamental complexity of the interrelated and situated processes of teachinglearning. It is not a matter of directly applying theories, nor of directly reproducing practices.

2. These models can be of various types and forms, and perform various functions. It is their diversity, and the very process of diversification from the same data, that allows the best understanding and management of complexity in DLC.

3. Unlike theories, which are mutually exclusive, theoretical models can be combined and articulated with each other, and with practical models, in praxeological remodeling processes. Within these processes, the different models can be tested, explored or manipulated, in order to be able to apprehend and manage the complexity of DLC as well as possible.

4. The adoption of practical models does not necessarily imply the identical reproduction of the corresponding practices in the classroom: as models, they are likely to be subjected, like theoretical models, to modifications, combinations and articulations carried out within the processes of praxeologization.

<sup>&</sup>lt;sup>76</sup> In my 2015 essay, I call this operation the "rhetorical mobilization" of theories (cf. Puren 2015a, chap. 4.2, pp. 24-26).

<sup>&</sup>lt;sup>77</sup> Cf. my critique of the use of this term, as well as those of "socio-cognitive conflict" and "problem solving" in my 2018b\_paper. Cf. also, in my 2015a essay (chap. 4.2, pp. 23-24), what I call the "rhetorical mobilization" of theories, which is particularly common in academic research in DLC, in which theories too often remain valued for their own sake, without a relationship being established with didactic models, whether theoretical, praxeological or practical.

<sup>&</sup>lt;sup>78</sup> The numbering of these different conclusions has no hierarchical meaning. It is only used to make it easier to recall them later.

#### 2. Part 2: Critical analysis of the PPP "model" in IDE

#### Introduction of the second part

#### **Objective of this second part**

As indicated in the general introduction, this second part aims at proposing an "argumentative toolbox" for the critique of the PPP "model", this model being taken as an illustration, in IDE, of a conception of disciplinary epistemology which seems to me to be erroneous. And the fundamental error is that IDE specialists use the model not as an instrument for apprehending and managing the complexity of DLC, but conversely as an instrument for reducing this complexity: all the arguments proposed here are related to this central thesis.

Some of these arguments may seem forced, unconvincing, or even wrong to some readers. On the rack on the wall of a car repair garage, not all the tools are intended to be used by all the mechanics, and the fact that some of them consider some of these tools unsuitable for their work or their way of working, or even bad, does not prevent the rack, with all its tools, from being useful to the overall activity of the garage; not to mention the fact that spotting an unsuitable tool helps to look for and find a better one. It is up to each reader, therefore, to evaluate one by one the arguments proposed in order to construct his or her own critical analysis of the PPP model; they will probably also establish privileged relationships between certain arguments, or even group them together: their criticism will necessarily be personal, since it will depend in particular on their didactic conceptions, their professional experiences and their teaching and research environments. Some readers will undoubtedly have forged other critical argumentative tools for the PPP model from the first part of this essay. In other words, to take up concepts introduced in this first part, what I propose in this second part is a critical model of the PPP theoretical model-procedure... which I invite readers to submit to their own mental praxeologization.

In this second part, I will have to compare the PPP model to the TBL (*Task-Based Learning*) and PBL (*Project-Based Learning*) models. I think it is interesting, especially for French students and teachers who are not necessarily familiar with them, to present all three below.

## **Presentation of the PPP model (***Presentation - Practice - Production***) of illustration** (**Anderson 2017**)

I have chosen, to introduce this PPP Presentation-Practice-Production model to readers from whom it would be absent from the didactic culture, the detailed description given by Jason Anderson in a 2017 article, which seems to me relatively consensual among its proponents. The other advantages of this article, besides the fact that readers will be able to consult it themselves because it is available online, is that the author gives a history of this model, and defends its interest against the criticisms of the exclusive promoters of the main competing model in IDE, the TBL model, with arguments often used by other authors.

*Presentation: language features (including grammar, lexis, and functional exponents) are selected and sequenced in advance for explicit instruction, typically involving contextualized presentation followed by elicited clarification of meaning, form, and use.* 

*Practice:* controlled practice of the feature is provided, typically including written exercises (such as gap-fills), controlled speaking practice activities (for example "Find someone who ..."), and oral drills.

*Production:* opportunities for use of the feature are provided through free production activities that attempt to simulate real-world language usage (spoken or written) such as role-plays, discussions, email exchanges, and story writing, when correction and integrated form focus can be provided by the teacher. (p. 226)

As announced at the end of the general introduction, all the "argumentative tools" presented in this second part deal with the same fundamental criticism of the PPP "model", namely that it is conceived as a model not of apprehension and management of complexity, but of reduction of this complexity.

# Presentation of the TBL (*Task-Based Learning*) model of illustration (ChatGPT April 4, 2023)

I have chosen to present here the presentation of this model to the AI of ChatGPT. After comparing it with the descriptions of several IDE trainers, I noticed that this AI -that's the way it works- compiled all the descriptive elements I had been able to find in the others. After a first question that was too general, I asked him (in French) a second one specifying the three phases of the model, in order to force him to describe each of them: "What do the pre-task, task and post-task phases correspond to in the *TBL (Task-Based Learning)* model in language didactics? Her answer was (I translate it from French to English):

The TBL (Task-Based Language Teaching) model in language teaching is an approach that focuses on the realization of concrete tasks to develop learners' language skills. This model generally consists of three phases: pre-task, task and post-task.

The purpose of the pre-task phase is to prepare learners for the upcoming task. This phase can include activities such as discussions, presentations, readings, or vocabulary exercises that allow learners to activate their prior knowledge and become familiar with the structures and vocabulary needed to complete the task. This phase is important to ensure that learners have the necessary skills and knowledge to succeed in the upcoming task.

The task is the central activity of the TBL model. It consists of a real and meaningful task that puts learners in an authentic communication situation. The task must be feasible and relevant to the learners, and must involve the use of language in a real context. Tasks can be varied, ranging from problem solving to project work to simulations of everyday situations. The objective of the task is to allow learners to practice the language skills they have acquired and to develop their ability to communicate using the target language.

The purpose of the post-task phase is to help learners reflect on their performance and receive constructive feedback from the teacher or their peers. This phase may include activities such as group discussions, language reviews, oral or written presentations, or formal evaluations. The purpose of the post-task phase is to allow learners to become aware of their own learning, build their confidence, and encourage them to continue to develop their language skills.

In sum, the TBL model is an approach to language teaching that focuses on the completion of meaningful, real-world tasks to enable learners to develop their language skills in a practical and authentic way.

Like the PPP model, the TBL model is therefore a procedure model: Pre-task → Task → Post-task.

# Presentation of the *Project-Based Learning* (PBL) model of illustration (Bilsborough 2013)

It is much rarer, among IDE specialists, to see the third major model available, PBL (*Project-Based Learning*), taken into account, probably because many consider it as a simple variant of the TBL model. This is the case of Katherine Bilsborough, whose presentation below was published on the British Council website (accessed on April 4, 2023):

The PBL approach takes learner-centredness to a higher level. It shares many aspects with TBL, but if anything, it is even more ambitious. Whereas TBL makes a task the central focus of a lesson, PBL often makes a task the focus of a whole term or academic year.

Again, as with TBL, different teachers approach project work in different ways. Some use it as the basis for a whole year's work; others dedicate a certain amount of time alongside the syllabus. Some use projects only on short courses or 'intensives'. Others try to get their schools to base their whole curriculums on it. But there are generally considered to be four elements which are common to all project-based activities/classes/courses:

1. A central topic from which all the activities derive and which drives the project towards a final objective.

2. Access to means of investigation (the Internet has made this part of project work much easier) to collect, analyse and use information.

*3. Plenty of opportunities for sharing ideas, collaborating and communicating. Interaction with other learners is fundamental to PBL.* 

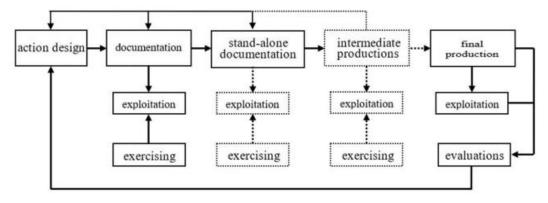
4. A final product (often produced using new technologies available to us) in the form of posters, presentations, reports, videos, webpages, blogs and so on.

The only difference made by this author between the TBL and the PBL, as we can see, is of a quantitative nature, in terms of the importance of the task and the length of time it takes to complete. This presentation does not really correspond to the project-based pedagogy as it was originally conceived by its great historical representatives such as John Dewey in the USA, Ovide Decroly in Belgium and Célestin Freinet in France, and taken up again by pedagogues up to now. What strongly distinguishes this project-based pedagogy is its primary educational goal, which is the training of a responsible social actor in all areas (personal, public, educational and professional, to use the categories of the CEFR). In particular, in school education, it is a question of training the autonomous but supportive, critical but responsible citizen, making society with others in a democratic country. This is why project-based teaching is the reference pedagogy for the "Social Action-Oriented Approach" outlined by the authors of the CEFR<sup>79</sup>.

We have seen above, at the beginning of chapter 1.2.4, that the project approach implements a complex process of high-level cognitive operations. If we want to transpose this same complexity into a modeling of the didactic unit in PBL, we necessarily arrive at a process-model much more complex than the simple procedural model of TBL. Here is the one I proposed in 2018 (Puren 2019c-en, p. 9):

<sup>&</sup>lt;sup>79</sup> On this natural relationship, on which I have personally published extensively, see the corresponding entries "Pédogie de projet" and "Perspective actionnelle" in the "Bibliographies" section of my website, <u>www.christianpuren.com/bibliographies/</u>. Miniprojects are versions of projects adapted to the didactic units of textbooks (cf. Puren 050, also for the difference between miniprojects and the "final tasks" of communicative textbooks, and Acar 2021a, 2021b, 2021c).

#### Fig. 30 Process model of the learning unit in PBL Project Based Learning



In the comments I make following this model in my cited article, we find the importance of the educational purpose of project-based pedagogy):

From an action perspective, the goal of training for autonomous and responsible social action leads to:

- before the famous "final task", to propose to the learners to take charge of the "initial task" which is the design of the project (see "design of the action");

- during the course of the project, to ensure that they have to search for, or at least complete, the documentation they use to prepare their final task(s) (see "self-directed documentation")<sup>80</sup>;

- during and at the end of the project, to possibly use the intermediate productions of the students (note-taking on documents, notes intended to help with oral presentations...) and their final productions as authentic documents in their own right, which can therefore be used as working documents on the foreign language-culture in one or other of the "documentary logics" available in language-culture didactics (cf. Puren 066-en);

- to consider a mediation activity after the final production in the foreign language, which would consist of the students translating their production into their mother tongue to carry out the same social action in their own society.

The chapters in this second part will therefore focus on the critical analysis of the PPP model, with some comparative references to the other two models, TBL and PBL.

# 2.1. A reduction to a single model-procedure, at the expense of a diversification of more complex forms

The PPP model is a procedural model, which can be represented in the following way, the arrows symbolizing the chronological succession of its three phases:

*Fig. 31. PPP Model-Procedure* Presentation→ Practice→ Production

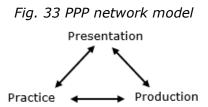
The pure logic of the communicative approach, which is to teach students to communicate by making them communicate, would even have us believe that "Practice" should be done only in a communicative situation, and therefore that "Production" should also serve as "Practice". This reduced "Presentation-Production" model is used, for example, in a textbook of Spanish as a

<sup>&</sup>lt;sup>80</sup> It is not the Internet per se that characterizes PBL over TBL, but the fact that it is used by learners to intervene themselves in the search and selection of materials.

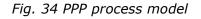
foreign language for beginners originally published in 1983 in Spain, *Para empezar*  $A^{81}$ : in each didactic unit, after a first Presentation in the form of micro-dialogues in different communication situations, then a second Presentation of the language forms of these dialogues in the form of lists of functions and notions, the textbook immediately proposes to the students to reuse these forms in exchanges between them. The didactic unit ends with some written evaluation exercises.

This simplified model of the didactic unit of this communicative textbook is therefore as follows: *Fig. 32 Simplified PP (Presentation - Production) model of a communicative textbook (1983)* Presentation → Production

The "Presentation, Practice, Production" series-model is actually more complex than the standard procedure-model, since the statement presenting the combination of the corresponding ideas -"In any didactic unit or sequence, there is Presentation, Practice and Production"- immediately prompts a questioning of the possible relations between these three elements. The model that opens up this questioning is the network model:



One of the answers to the questions opened up by this model will cause the procedure model to become more complex, and it will have to be transformed into a process model. Any teacher, in fact, will naturally return to the Presentation phase if, during the Practice, he/she realizes that the Presentation has been insufficient; he/she will also return to the Practice phase if, during the Production, he/she realizes that the Practice has been insufficient. Following the final evaluation of the PPP sequence, which reveals inadequacies in the appropriation of the linguistic forms introduced and worked on, he/she may even repeat the Presentation, possibly using some of the learners' productions for this new Presentation. The resulting process model, which integrates one of the basic forms of complexification, namely recursion, is then the following process model:

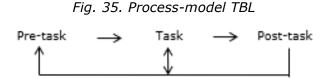




The TBL procedure model Pre-task  $\rightarrow$  Task  $\rightarrow$  Post-task will inevitably be subject to this minimal manipulation in the actual practices of the teachers as well:

<sup>&</sup>lt;sup>81</sup> Equipo Pragma (E. Martin , L. Miquel, N. Sans, T. Simon, M. Topolewsky), Para empezar A (unidades 1 A 7). *Curso comunicativo de español para extranjeros*, Edelsa, reed. Didier 2000 (1st ed. EDI 6 1983)

At the bottom of the download page of my book *History of Methodologies* (www.christianpuren.com/mestravaux/1988a/), you will find a link to the reproduction of the first teaching unit of this textbook. The didactic unit of *Para empezar 1* ends with a final phase consisting of punctual written exercises of evaluation.



As soon as the teacher considers that he/she cannot fully master the learning processes, and that he/she should not even attempt to do so, since this would require him/her to focus exclusively on him/herself or on his/her reference methodology, he/she is led to transform all the process-models into process-models<sup>82</sup>.

A mental praxeologization closer to the actual practices of the teachers will also bring to light an element that is curiously absent from both the PPP and the TBL models, which is evaluation, even though it is evaluation that ensures the effective regulation of the process. The process version of the PPP model will then be represented as follows:



Readers will have recognized, among the two occurrences of evaluation in this model, that of the so-called "formative" evaluation, and that of the so-called "summative" evaluation.

It is not very difficult to find other examples that show that, *even without leaving the framework of the communicative approach*, the PPP model becomes a simplistic model if its simplicity is not used to conceive the necessary complexities in the reality of the classes:

- In good active pedagogy, which the communicative approach claims with its "learnercenteredness", the Presentation can be preceded by an initial phase during which the teacher calls upon what, in the experience and knowledge of the students, or on the basis of introductory elements (such as the title of the article that will be read later, or the relevant parameters of the communication situation of the dialogue that will be listened to later), can prepare for the next phase of Presentation. If we add this Preparation (P) to the model<sup>83</sup>, it becomes a "PPPP" type:

> Fig. 37. Complex procedure-model PPPP (Preparation + PPP) Preparation→ Presentation→ Practice→ Production

- In most communicative textbooks, the evaluation required at the end of each didactic unit is done on the final production (it is a product-oriented evaluation, that of the final production), but it is indeed a different phase, since this evaluation is done on not only communicative, but

<sup>&</sup>lt;sup>82</sup> Cf. Puren 2022f, chap. 4.1.3.3 "From model-procedure to model-process... and back again, in everyday classroom practices", pp. 28-29, and *supra* chap. 1.4.3.4.

<sup>&</sup>lt;sup>83</sup> And not if it is integrated into the Presentation, which is difficult to support from a conceptual point of view, and is probably explained by the prestige of the ternary model, which goes back, in the West, to the Holy Trinity, and which is found in particular in the academic model "Thesis Antithesis Synthesis" of essays. J. Anderson pokes fun at this ternary structure mania in a slideshow published on his site, titled specifically "*Why is 3 the magic number?*" (Anderson 2018a). He does so in a humorous way (as an initial explanation, he suggests, "*English teachers can't count to 4.*"), but he publishes a contribution the same year titled "*The hidden paradigm in contemporary ELT: Context, Analysis, Practice...*" (Anderson 2018b).

also linguistic criteria (cf. for example the pragmatic, linguistic and sociolinguistic criteria of the CEFR). Evaluation has been particularly important since the origins of the communicative approach: the first major document of the Council of Europe was entitled *The Threshold Level in a European unit-credit system for modern language Learning by adults*, and we know the predominant place of the scales of competence in the *CEFR*. The model of the didactic unit in the communicative approach must therefore, at least, if we integrate the Evaluation in addition to the Preparation, be of the PPPPE type (Preparation - Presentation - Practice - Production - Evaluation)<sup>84</sup>. It is this linear model (the phases always follow one another) which is the most current in the first levels of the communicative French school manuals of L2, and of FLE for all public:

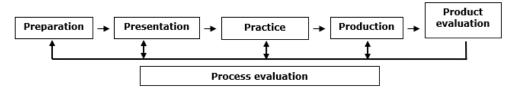




- The model thus complexified PPPPE can undoubtedly suit the authors of textbooks for the design of didactic units in the communicative approach. But it is still reductive in relation to the necessary practice of the teachers in front of their pupils, whether it is in the implementation of the didactic units, or in the realization of their own didactic sequences. The focus on the learner implies regular evaluations of the process in progress (often called "formative evaluations"), which will mechanically transform the PPP procedure-model into a process-model (cf. chapter 1.2.4 *above*).

The formative evaluation of students' oral productions can thus lead teachers to return to a point of grammar to repeat exercises. The summative evaluation of a didactic unit or sequence, or simply the prediction of difficulties in the students in view of the language content to come -another example- can lead teachers to establish a proactive relationship between it and the Preparation of the following didactic sequence, by introducing a Preparation, the summative evaluation also serving as a diagnostic evaluation for the continuation. The model would then be the following recursive model, which flows on itself to articulate each sequence to the next:

*Fig. 39. Model of the EPYP process (Preparation + EPYP + Formative and summative evaluations)* 



# **2.2.** A reduction of the model to the sole practical function, at the expense of the heuristic function

It seems obvious to the proponents of the single PPP model that in order for students to progress in their effective mastery of the target language (L2):

(1) that they are first subjected to the students of new language elements (*Presentation*);

<sup>&</sup>lt;sup>84</sup> This omission of Evaluation in the standard PPP model can probably be explained by the fact that in the communicative approach, evaluation was from the beginning and remained thereafter strongly influenced by the evaluation-certification of adults (that of the *Threshold Level* and the *CEFR*). As such, it has never been thought of, as it should be in good school pedagogy, first and foremost as an operation of regulation of the teaching-learning process, which would have obliged to integrate it into the basic model.

(2) that they then do more or less intensive focused work on these different elements (*Practice*), in such a way that...

(3) ... they are eventually able to reuse these elements themselves in conjunction with others already mastered (*Production*).

In the introductory sentence of the PPP model above, the combination of obviousness ("seems obvious"), obligation ("necessarily") and limitation ("unique model") is the unmistakable mark of a paradigm, i.e. a logical structure that provides a strong coherence, but that does not allow one to think outside it. However, the apprehension and management of complexity may require, depending on the environment, the use of totally different logics<sup>85</sup>. By "turning" the PPP model around during a mental praxeologization, we will ask ourselves, for example, if there are environments where we could "start at the end", *i.e. with* production. The case exists, which was brought to my attention a long time ago by a teacher working with an illiterate public. He considered that one of his priorities was pedagogical, namely the remotivation of his students, and for this (good) reason he regularly began certain sequences by making them write, so that they would realize that they knew more than they thought, and that from what they knew, by reworking it, they were capable of achieving an acceptable production. These sequences therefore began and ended with the students' own production:

Fig. 40. Alternative PPP Model-Procedure: Production - Practice - Production Production→ Practice→ Production

This alternative PPP model can be made more complex to cover not just one sequence, but a series of sequences. For example, the same teacher could use the production of one of his learners, or a collective production of a group of learners, as a basis for the next collective sequence (which is also a way of enhancing the learners' self-esteem), with a presentation on his part highlighting a point of grammar or a lexical field worthy of targeted practice so that it becomes available for other productions. The teacher will then propose a new situation of written reuse to the learners. The model will then be the following, which articulates a non-standard model and a standard PPP model:

#### *Fig. 41. Model-procedure articulating an alternative sequence and a standard PPP sequence*

Production  $\longrightarrow$  Practice  $\longrightarrow$  Production | Presentation  $\longrightarrow$  Practice  $\longrightarrow$  Production

Here is another example of a particular environment, which led a teacher of English for nonspecialist students to recycle the "grammar-translation" model for her courses at the beginning of the XXIth century (Joulia 2001). This teacher started from the observation that her students were coming out of their academic learning of English unmotivated, in particular because this learning had left them with many fossilized errors. Based on this observation, she designed remediation sequences:

- based on the use of the computer, considering that "motivation is enhanced by the attractiveness of the computer and the activities that flow from it" (§31);

<sup>&</sup>lt;sup>85</sup> Paul Feyerabend and his "anarchist theory of knowledge" should also be considered as epistemological references for DLC. He writes in his 1975 book: "Let any rule be: however 'fundamental' and 'necessary' it may be for science, there will always be circumstances in which it is preferable not only to ignore it, but to adopt the opposite rule" (p. 21). For further references to this author's epistemology, cf. Puren 2015f-en pp. 7-8. A reference (in my opinion watered-down) to Feyerabend can also be found in B. Kumaravadivelu: cf. Puren 2022b, p. 21.

- aimed at students' priority, which is "to get rid of old linguistic reflexes, fossilized for a long time, in order to build new ones, in a word to unlearn in order to relearn (§7);

- based on one of the principles of traditional pedagogy, namely that the quality of learning is commensurate with the intensity of the effort made by the learners; she thus writes:

[...] gap exercises, matching exercises, true-false exercises, or multiple choice questions ... are often exercises that are solved in a short period of time. [...] On the other hand, proposing a translation exercise and forcing students to make a cognitive path<sup>86</sup> represents a cognitive cost, linked to a change of strategy, which favours a more efficient retention of information insofar as it is more costly to process. We know that the effort put into acquiring knowledge affects the retention of that knowledge. (§12)

The "teaching-learning" model, which has been the model of language didactics for more than a century, is thus replaced in these remediation sequences by a model as unexpected as the "grammar-translation" model, and even more unlikely, namely the following model:

Fig. 42. Alternative unlearning - learning model-procedure

"unlearning→ learning".

But after reflection -or more precisely, after "praxeologization"- I think that readers will agree with me that this model is as logical and more appropriate than the standard model for this audience and this  $purpose^{87}$ .

### 2.3. A reduction to a single model supported by a single cognitive theory

Academic IDE specialists who advocate the PPP or TBL model feel obliged to do so in the only way that is acceptable to their professional milieu, namely by appealing to one or another theory of acquisition. Since theories on the same subject are exclusive of each other, unlike theoretical models, this necessarily leads them to promote only one model, PPP or TBL. By "seeking to build a perfect and totalizing coherence around a single principle", they lock themselves into the "scientistic paradigm", which Edgar Morin also calls the "Copernican paradigm", in opposition to the complex "Hubblean" paradigm (cf. the first table in chapter 1.1 *above*). In the case of the debate between the practical models PPP and TBL, the two theoretical models mobilized are respectively the following:

- Form→ meaning: language forms are explicitly taught (Presentation of forms); they are then worked on by the students (Practice of forms); finally, the students are asked to use them to express themselves (Production of meaning): see the presentation of the PPP model in the general introduction to this essay.

- Meaning→ form: contact with language forms is first made implicitly, in a context of use (that of the task), and it is only afterwards that these forms are taken up explicitly, including possibly by means of controlled practice activities similar similar to those in the Practice phase of the PPP model.

The problem in IDE is that its specialists do not think of them as cognitive models, which can be as such opposed and complementary (cf. *supra* chap. 1.4.1.1.2), but as different theories, and therefore incompatible with each other.

<sup>&</sup>lt;sup>86</sup> The variant of the "grammar-translation" model implemented is therefore the one I proposed above to code as "translation $\rightarrow$  GRAMMARY" (cf. *supra* chapter 1.4.3.3).

<sup>&</sup>lt;sup>87</sup> For more details, I refer you to this article, available online.

However, it has been empirically observed for a very long time that these cognitive models both correspond to realities. The abbot Pluche, author in 1735 of a work entitled *La mécanique des langues et l'art de les enseigner* already noted at the time:

There are only two ways to learn languages. One learns them either by use and then, if one wishes, by reflective practice, or first by reflective study and then by practice (quoted by Puren 1988a, p. 38).

Learning by use corresponded in his mind to the natural acquisition of L1 (possibly reinforced later by its formal study, especially in school), the only model that seemed to him to be adapted to teaching being that of the **grammar** (reflective work on language forms) - **translation** model (theme: production of meaning by transposing into L2 a meaning presented in L2; or version: transposition into L2 of a meaning presented in L2).

A 2019 article by Rod Ellis perfectly illustrates the difficulty IDE specialists have in conceiving of the possibility of combinations between PPP and TBL models. He clearly explains why:

Task-based language teaching (TBLT) and task-supported language teaching (TSLT<sup>88</sup>) are often considered incompatible because they are based on different theories of language learning and teaching. [... but ... **for now,** program designers will have to rely on their experience and intuition as much as on research to make decisions about how to sequence tasks. (Abstract, my emphasis)<sup>89</sup>

Rod Ellis is obliged to note, from an empirical point of view, that the two theories each have their usefulness. What he envisages, however, is not to combine them, but to articulate them at a great distance from each other, in different "modules" at different times in the curriculum: "modularization" is not conceived in his view, as it can be within sequences or didactic units, as a means of giving flexibility to classroom practices (the teacher and learners will decide in real time to articulate elements of different modules according to emerging needs), but as a way of "juxtaposing", as it were, the two theories away from each other, in order to preserve each one's unique character.

It is indeed impossible to imagine an articulation between the PPP model and the TBL model, because each has been developed with its own concepts. But this articulation is not a problem if we transcribe these models into the concepts of teaching, learning and use. Using mental praxeologization as a training technique, one could ask teachers, for example, what the following classroom sequence might look like:

Fig. 43. Model-procedure articulation of the PPP model and the TBL model TEACHING-LEARNING→ using→ using→ teaching-learning

It could be a teacher launching a sequence on the PPP model. After the Presentation and Practice ("TEACHING-APPRENTICESHIP" in capitals: these are the sentences that are supposed to ensure the logical progression of language learning), he proposes the form of usage provided for in this

<sup>&</sup>lt;sup>88</sup> For him, the PPP is the most common form of what he calls the TSLT, the one implemented in the communicative approach.

<sup>&</sup>lt;sup>89</sup> The expression "for the time being" alone reveals the scientistic paradigm in which R. Ellis is situated. The authors of the CEFR frequently use this same kind of expression ("at present", "currently", so far..."), which shows their expectation that one day the definitive scientific theory of language acquisition will be discovered (cf. Puren 2015f-en, p. 8). This scientistic paradigm implies a voluntary or involuntary confusion between acquisition and learning: even if a single theory of acquisition were to be imposed in the cognitive sciences, it could not claim to impose its only model in DLC, whose object is not acquisition, but teachinglearning (cf. *supra* chapter 1.4.1.1, the corresponding remark on cognitive models of teaching-learning).<sup>2</sup>

model, relatively limited and oriented because the objective remains a reuse of the language forms introduced at the beginning of the unit, for example, as J. Anderson proposes, role-playing games ("usage", in lower case)<sup>90</sup>. The teacher then continues by proposing a more ambitious form of use ("USAGE", in capital letters), for example a mini-project, during which he realizes that some of these language forms are not yet sufficiently acquired to be reused spontaneously, or even (which is frequent when students move from directed or free reuse to spontaneous reuse), that errors not previously made appear. He then decides to close the entire sequence by reusing these language forms with "post-task" type activities.

## **2.4.** A reduction to the didactic units of the manuals, at the expense of complex classroom sequences

First, I refer readers to the difference I make, at the end of the general introduction to this essay, between "didactic units", which are those of language textbooks, and "class sequences", which correspond to the same type of functional division, but which are carried out by the teachers themselves in their class preparations or in front of their students, with or without the support of a textbook.

In the summary of a 2006 article, B. Kumaravadivelu rightly distinguishes, in what is called "method",

between what theorists propose and what teachers practice. Clearly, they are not the same. [...] Method analysis can be done by reviewing the relevant literature, but teaching analysis can be done only by including a study of classroom input and interaction. (p. 60)

Nevertheless, he announces that "this article is about method analysis, not teaching analysis". And indeed, he first presents the theoretical debate between the PPP model and the TBL model, before arguing as a didactician in favor of a "*postmethod pedagogy*". He thus remains, paradoxically in my eyes, dependent on a debate that he nevertheless considers reductive. The study of "input and interaction" in the classroom would have shown him that experienced teachers articulate and combine different existing methodologies, rather than inventing their own. From the inadequacy of any single methodology one can draw the conclusion that none of them is good, but just as well that all of them should be used, and it seems that this is the conclusion drawn for a long time by many teachers, who appeal to this eclecticism that B. Kumaravadivelu condemns. Kumaravadivelu. In my study of Kumaravadivelu's body of work, I argue for the latter idea: in my opinion, the necessary overcoming of methods is not to be found in "post-methodology", but in "multi-methodology" (cf. Puren 2022b, in part, chap. 1.5, pp. 7-8; see also chap. 2.8 below, right here).

In his previously cited 2017 article, J. Anderson traces the history of the PBL model. He announces right in the abstract one of the findings of his study, which is "its close relationship with ELT coursebook syllabi ever since its emergence". But the conclusion he draws is not, as it might have been, the need to confront this model with actual classroom practices, but that of returning once again to the age-old debate among educationalists about theories of acquisition:

<sup>&</sup>lt;sup>90</sup> In my opinion, it is abusive to speak of "spontaneous reuse" at the end of a didactic unit in the communicative approach, as the students are well aware of the "didactic contract", even if it remains implicit, which is to try to reuse the new language forms previously presented and practiced. It is therefore a reuse that is no longer "guided", but not yet "spontaneous": I propose to call it "free" (cf. in chapter 1.4.3.2 my "modèle de la procédure standard de l'exercisation en langue"), insofar as the students can choose which of these forms to use at which moment to express themselves personally, but the qualifier "oriented", which I use here, would perhaps be more appropriate).

Recent evidence from second language acquisition research in support of explicit, practice-oriented instruction such as PPP is also discussed, along with other recent references to the model, suggesting not only that it can no longer be rejected as incompatible with research evidence, but that it may be enjoying a revival in its fortunes. (Anderson 2017, Abstract, p. 218)

What B. Kumaravadivelu and J. Anderson have in common, beyond their divergences on the question of methodologies, is the impasse they both make on the reality of teaching-learning processes in the classroom. The same is true of the other articles I have read, and this has been one of the "culture shocks" I have felt when reading them from my didactic culture.

Indeed, FLE didacticians, whatever their nationality, and French didacticians of other foreign languages, do not refer to the PPP or TBL models<sup>91</sup>, and I do not know of any article in which one of them has carried out a synthesis or led a discussion on the different interpretations or possible variations of one or the other of these models. The three phases of the PPP model can of course be found in their observations and proposals for didactic units (these phases do indeed correspond to a strong logic: cf. supra the beginning of the chapter 2.2), but they are buried in a set of broader considerations concerning the other problematics at stake in this framework, such as language skills (written and oral comprehension, written and oral expression, interaction), language domains (lexicon, grammar and phonology), questions of objectives and progression, or even materials, types of exercises and evaluation. Two good examples of this mode of treatment are (1) in the description mode, Maria Cecilia Bertoletti's (1984) grid for analyzing FLE textbooks, which was widely used in the following years in the discipline; and (2) in the intervention mode, in Janine Courtillon's book *Élaborer un cours de FLE* (Courtillon 2003), the chapter entitled "L'organisation de l'unité d'enseignement" (Organization of the teaching unit), pp. 31-51. This term "organization" alone seems to me to characterize the complex approach, both empirical and global, of the didactic sequence by didacticians of French as foreign language. But it is also because they always address themselves, when they tackle this question, to teachers and not to other researchers.

IDE specialists have chosen the opposite, abstract and particular approach, which consists in complexifying theoretical debates among themselves on reductionist models from the practical point of view. One can seriously question the real interest, for teacher training, of these theoretical debates which have for practical references only didactic units of textbooks. Indeed, the competence of teachers is measured by their capacity to adapt in real time and to make the practices proposed in their textbook more complex<sup>92</sup>. The use of language textbooks alone in these theoretical debates sends them two equally regrettable messages, namely (1) that one could, or even should, strictly follow one's textbook, and (2) that this would enable the theory of acquisition to be rigorously applied, which is what the authors claim. However, the development of textbooks, like teachers' practices, is subject to much more complex constraints and logic than the simple application of a theory, whatever it may be.

Three of these logics which publishers constantly put forward, according to my personal experience both as an author and as a pedagogical advisor and collection director for French and Spanish foreign language books, are the following:

<sup>&</sup>lt;sup>91</sup> One can realize this by doing a search on the Internet in French with the keywords "*modèle PPP*" or "modèle TBL", and "FLE" or "didactique des langues": I am almost the only one to speak about it...

<sup>&</sup>lt;sup>92</sup> Cf. my proposed "Échelle de compétence de l'enseignant dans l'utilisation de son manuel" ("Teacher Competence Scale in the Use of Their Textbook"), Puren 2015e, Document n°3.

(a) Each instructional unit in the textbook must be constructed strictly on the same model as all the others.

(b) All the contents of the same teaching unit must be consistent with each other, so as to create a synergy effect; if we apply the PPP model, which is a linear procedure model (the phases are predefined and their chronological order predetermined), then the same structures that appear first in Presentation, for example, will have to be found again in Practice, and finally in Production, so as to allow them to be reused.

(c) Each didactic unit must be, if not independent of the previous one, at least "self-sufficient". One of the consequences is that the balance between the different activities within each unit must reflect the balance considered ideal over the whole course between the different types of content (grammar, lexicon, phonology) and language skills (written and oral comprehension, written and oral expression, interaction).

The consequences are as follows:

(a') The authors, in the best of cases, can only implement the mental praxeologization at the time of the initial elaboration of the unique model of the didactic units (in the margin of autonomy, sometimes null, that the editor imposes to them with regard to their own ideas...). But they cannot then bring into play the concrete praxeologization that is indispensable for managing the complexity of teaching-learning practices in the classroom. It is rare that textbooks are experimented with before being published, and even if they are, concrete praxeologization is then anyway limited to experimental environments.

(b') The organization of language content activities within the didactic unit is very rigid. If teachers are to have any flexibility in their classroom practices while using a textbook, then at least the Practice section must be conceived as a module: as a language teaching-learning professional, a teacher must at least be able to manage language practice activities according to his or her own decisions in context. Modularization is not sufficient within the curriculum, as Rod Ellis proposes: it must be implemented within the didactic units themselves, as teachers naturally do within their sequences. It may be useful at certain times to begin a sequence with a point of grammar or the study of a lexical field before tackling a document, for example, if one wants to facilitate immediate global comprehension: no theory of acquisition will ever be able to contradict, in the name of "science", the evidence of this empirical observation.

(c') The PPP model is limited to the limits of the didactic unit, without taking into account the links that teachers must establish between their successive class sequences: any summative evaluation at the end of a sequence, for example, is likely to serve as a diagnostic evaluation for the following sequence and thus to modify it. In DLC, the ideal balance between the different activities and the different types of content can only be defined, in any case, from a statistical point of view over several weeks of classes: it may be useful to devote an entire sequence to a summary of a complex grammar point covered several times before in a partial manner, or to a lexical field whose elements have already been introduced in several previous sequences; or to a discussion of a cultural issue that has appeared in isolation in several documents worked on during the previous weeks. In PBL/project teaching, in the context of a project completed after several weeks or even several months, it will be necessary to devote at least one complete sequence to individual and group self-evaluation<sup>93</sup>.

<sup>&</sup>lt;sup>93</sup> The complexity of this type of evaluation can be seen in the "Didactic Guide" of a specific objective course entirely carried out in the form of successive projects and mini-projects: *FRANMOBE. Le Français pour la mobilité étudiante* (cf. AMBASSADE DE FRANCE AU BRÉSIL 2013, or Puren 083 and its extract Puren 083en).

Even when using a textbook, it is up to the teacher to construct his or her own models of sequences, and one can even imagine that the learners participate in this construction. Years ago, I watched a video recording of a Dutch English teacher who, as usual, organized a "didactic conceptualization" session before tackling a new didactic unit in the textbook, during which she projected the different pages of this unit on the screen, one after the other, asking her students on each page to understand what was proposed to them, to say what they thought of it, and to make their own proposals for collective work.

### 2.5. A reduction in early learning levels at the expense of advanced levels

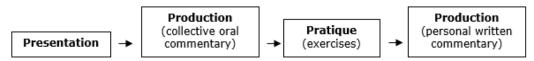
I recalled in the general introduction to this essay that all language teaching methodologies were historically developed for the early stages of learning, at a time when the complexity of the teaching-learning process could be more easily reduced and controlled by textbook authors and teachers in their classrooms. The PPP model is a logical, simple, linear and directive model, and this is why it can be found in direct methodology as well as in American audio-oral methodology, direct methodology, French audiovisual methodology and the communicative approach.

This model is not as interesting, however, for the more advanced levels, from the moment when, since all the basic language structures have already been covered, it is no longer possible to maintain a grammatical program, which was its great advantage. The TBL model can then be more easily imposed, alone or alternating with the PPP model<sup>94</sup>. But if English teachers introduce the TBL, it is not to apply another theory of acquisition, but, empirically, to motivate their students by proposing to them to carry out more varied and complex tasks, which are more interesting in themselves and more motivating because they allow them to engage in them personally and collectively.

### 2.6. A reduction to the sole object of language, at the expense of culture

This argument is directly related to the previous one: the PPP model is no longer relevant at the advanced levels of learning, as soon as the documents are no longer simple supports for the presentation of language forms and mere pretexts for working on written and oral comprehension and interaction between students in the classroom, but become the main objective of the didactic activity as representatives of the foreign culture. This was the case in France for more than half a century (from the 1920s to the 1960s), during which the official methodology in school language teaching was the so-called "active methodology". As early as possible -after two or three years for English and German, from the very beginning of learning for languages more immediately accessible to French speakers, such as Spanish, Italian and Portuguese- each literary document, chosen first of all for its cultural interest, became, after a quick presentation by the teacher, the sole object of a macro-task of cultural and linguistic exploitation by means of a collective commented reading occupying the essential part of the didactic unit (cf. Puren 041-en). This cultural exploitation goes far beyond what the PPP model foresees in "Presentation", and it precedes its language exploitation by means of exercises on selected forms in the document, the sequence ending with a limited written production (written resumption of a question on the text, personal extension, etc.) The model is thus as follows:

Fig. 44. Model-procedure of a sequence built on a single literary document



<sup>&</sup>lt;sup>94</sup> This is seen, for example, in the comments of several readers following a presentation of the TBL and PBL models, with some references to the PPP model, on the British Council website (Bilsborough 2013).

But one could just as well consider as central the complex macro-task of cultural exploitation of the text that its collective commentary in class aims at, and propose for this same active methodology the following model, of which the TBL would then become historically a variant:

## Fig. 45. Model-PTP procedure Pre-text - Text - Post-text Pre-text→ Text→ Post-Text

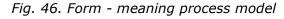
In the French second cycle, at present, a teaching is officially imposed in which the didactic units are based on sets of authentic documents, some of which may be literary, dealing with the same "cultural problematic": whatever the management mode chosen by teachers or textbook authors, it is necessarily of a much greater complexity than the PPP model, the central task approaching the action of a school miniproject, and may moreover be pedagogically conceived in this way (cf. Puren 2015g).

### 2.7. A reduction to a macro-model, at the expense of meso- and micro-models

IDE specialists are only interested in models managing the level of didactic units: this is the case of the PPP and TBL models, which are macro-procedural models. However, classroom management necessarily requires the use of numerous theoretical and practical meso- and micro-models of various forms, such as those I presented in the first part of this essay, and such as the teachers themselves may produce during their mental or concrete praxeologization operations<sup>95</sup>.

I will only take up here an example I gave in chapter 1.4.2 to illustrate the micro-methodological level, that of the table entitled "Oppositions méthodologiques fondamentales" (Puren 008), because it will allow me to return to the debate between the theoretical models form  $\rightarrow$  meaning and meaning  $\rightarrow$  form between the proponents of the practical model PPP and them of the practical model TBL.

One of these oppositions concerns the semasiological method and the onomasiological method. Teachers use the former, which starts with forms and moves towards sense, for example when they ask students to imagine a story based on a few key words; they use the latter, which starts with meaning and moves towards forms, for example when they ask them to identify key words in a text. These two methods are effective, even if they are opposed; or rather, **they are effective because they are opposed**: we know that expert readers use precisely both models, which correspond to approaches also known, in this case, as "*botton-up*" and "*top-down*". In other words, to manage the complexity of the operations of rapid comprehension of a text, they implement the following recursive model:





It is this recursive logic that teachers have their students use when they ask them, on first listening to an oral document, to identify key words (meaning  $\rightarrow$  form), then to use these words to make hypotheses about the meaning of the document (form  $\rightarrow$  meaning), then to validate (or not) these hypotheses of meaning during a new listening session (meaning  $\rightarrow$  form), the recursive mechanics being able to continue from successive listening sessions of the document. This type of sequence articulating the two theoretical models constitutes a classic training for oral or written comprehension in language class.

<sup>&</sup>lt;sup>95</sup> See the definition of micro-, meso- and macro-models above in Chapter 1.4.2, "Practical Models".

At this micro-methodological level, it is clear that the debate between the two theories generating the two models form  $\rightarrow$  meaning and meaning  $\rightarrow$  form (cf. *supra* chapter 2.3.) is irrelevant: the two theories are indeed opposed, but the two theoretical models are complementary, as teachers know from experience.

## **2.8.** A reduction to a single methodology, the communicative approach, at the expense of a plurimethodological approach

There is a consensus among IDE scholars, as far as I have seen, that the communicative approach implements the PPP model. This assignment of the PPP model to a single methodology is reinforced by the fact that the competing TBL model is assigned to another methodology, to the point that it defines it.

IDE scholars thus fall victim to what I have called (Puren 2004a, p. 13) the "spongy" nature of didactic notions, which tend to become unknowingly imbued with the single "methodological bath" in which they are immersed. I have often used the example of Nunan's definition of "task" in his 1989 book, *Designing Tasks for the Communicative Classroom*:

*Task: a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form*<sup>96</sup>. (p. 19)

"A piece of classroom" is the *definition of* the concept, that is, the statement of its abstract core. Everything else, as we can see, is the description of a particular task, namely the communicative task. But the tasks are of different forms according to the methodology in which they are immersed: the reference task of the so-called "traditional" methodology is the translation; that of the direct methodology, at the beginning, the description of places with often that of their characteristic scenes; that of the active methodology, the collective oral commentary of literary documents; that of the communicative approach, the oral interaction; that of the actional perspective, the collective social action.

The same is true of the notions of "Presentation", "Practice" and "Production" as soon as we abstract them from the communicative approach alone and observe their forms in other methodological contexts<sup>97</sup>: the term "lesson", which is still sometimes used today to designate what is now called, in the specialized language of DLC, the "didactic unit", has its origins in the grammar "lesson" (in the sense of the Latin *lectio*, the magisterial lesson) with which teachers began each new class sequence by *presenting* the new grammar point that would then be worked on in the sequence. In the direct methodology, the teacher would begin with the *presentation of* the vocabulary of the lesson using wall charts. Etc. etc. We have seen, for example, that in the grammar-translation methodology, the production consisted of translations  $L1 \rightarrow L2$  and  $L2 \rightarrow L1$ .

The notions of "Presentation", "Practice" and "Production" should therefore not be reduced to the communicative approach, where the three elements are described and linked in a certain way. The interest of these notions, for didactic reflection and teacher training, lies precisely in their capacity, when maintained at their maximum level of abstraction, to describe and design sequences that are very diversified in terms of approaches and contents. In the Social Action-Oriented Approach/project pedagogy, for example, which is a complex version of PBL, the

<sup>&</sup>lt;sup>96</sup> "Task: an element of classroom work that engages learners in comprehension, manipulation, production, and interaction in the target language, focusing their attention on meaning rather than form."

<sup>&</sup>lt;sup>97</sup> See the role of abstraction from field data in the qualitative research approach of Huberman and Miles 1991, *supra* chapter 1.1.

"Presentation" will be that of the project once the teacher and his or her learners have designed it together; it will also be the Presentation made by some students of documents they have selected on their own, to convince the others that they are interesting for the documentation of the project; It will also be the presentation by the different groups of the results of the partial tasks they have carried out separately; it will be the presentation of their final group productions to the whole class, or the presentation of the collective class project to the outside world. During the entire sequence that will be devoted to individual, group and collective self-assessments at the end of each project, there will certainly be moments of presentation of these assessments (cf. note 89 above with reference to the FRANMOBE course).

#### Conclusion of the second part

In this second part of the essay, I have reviewed what I consider to be the multiple forms of complexity reduction that the PPP model operates, which I consider to be arguments against it. As I announced in the introduction to this second part, it is up to each reader to take up or not this or that tool, in order to build up his or her own critical argument concerning not only the conception and use of the PPP model among IDE specialists, but their conception of the epistemology of the discipline, and, beyond that, the conception and use of models in general in DLC.

For many IDE instructors, the PPP model functions as a complexity reduction model, because they conceive of it as a "scientific" model to be reproduced, and not as a heuristic model whose multiple possible variations are to be tested, explored, or manipulated in context (cf. chapter 1.3.). I personally consider that discussions about the best model of didactic unit are futile -and these discussions are particularly intense among IDE specialists about the PPP mode- because the interest of any model in DLC is to allow a maximum of internal variations and external articulations-combinations with other models, which will allow researchers to adapt to the complexity of their objects of study, and teachers to adapt to the complexity of the management of teaching-learning processes. This requires, among other things, moving from the optimization paradigm -we consider that there are "problems" to be solved, and we look for the absolute best solution for each of them- to the adequacy paradigm -we consider that there are only "problematics" to be managed, and we look for a maximum of possible management modes for each of them<sup>98</sup>. Last, but not least, this requires abandoning all normative pretensions and admitting that teachers can only be offered didactic tools, *i.e.* tools for observation, analysis, interpretation, intervention and evaluation<sup>99</sup> from which only they are able to choose in real time in the field, in collaboration with their students, those that will be the most adequate and therefore the most effective according to their own aims, objectives, devices, and all other parameters of their teaching-learning environment

For this, more than existing theoretical models, more than existing practical models, whatever they may be, what teachers need is training in praxeological modeling.

#### General conclusion

The history of DLC is marked by a constant obsession of its actors to master complexity by reducing it. And the privileged tool of reductionism is applicationism: one starts from an element

<sup>&</sup>lt;sup>98</sup> On the difference between "problem" and "problematic", which corresponds to the difference between "complicated" (we don't know the answer, but we think it exists and we look for it) and "complex" (we know that there can only be partial, local and provisional answers, and we look for as many as possible that allow us to find the most adequate answer at any given time): cf. the table "Problem" versus "problematic", www.christianpuren.com/bibliothèque-de-travail/023/.

<sup>&</sup>lt;sup>99</sup> In this way, I take up the activities that I believe define DLC research, both among teachers and among educationalists (cf. PUREN DLC-DR1, pp. 2-5).

of the didactic problematic in order to extend its logic to the whole problematic. In a forthcoming article, in which I take up this question again (Puren 2023b), I finally come up with a list of seven forms of applicationism, all of which are currently more or less present and active in DLC in Europe, alone or combined. These are the applicationisms:

- *methodological*: a single methodology is imposed;

- scientific: teaching-learning is based on a particular theory or theories;

-*Practical*: certain practices are imposed that have been proven to be effective in the field ("*best practices*");

- *technological*: it is considered that the use of new technologies causes by themselves effects of improvement of the teaching-learning processes;

- *ideological*: one is unconsciously dependent on an ideology, or one consciously manipulates an ideology; this is for example the "ideology of pluralism" of the experts of the Council of Europe as denounced by Bruno Maurer in his 2011 book (for a review available online, cf. Puren 2012), or the neo-colonial ideology that would be that of Western IDE specialists according to B. Kumaravadivelu (2005, 2006, 2016, among others; cf. also Puren 2022b);

- *by the objectives*: it is believed that the language needs of the learners can be defined in advance, and that, based on these particular needs, not only the content, but also the particular methodological orientations of the teaching can be determined;

- *through assessment*: it is considered legitimate and effective to base teaching-learning methods on assessment methods ("*teaching by the test*").

Among the authors of the CEFR, as I denounce in this 2003b article, we find a combination of reduction by objectives and reduction by evaluation (cf. the levels and descriptors of competence of the CEFR).

Among the promoters of the PPP model (as well as the TBL model), we find a combination of even more forms of applicationism. These are the applicationisms:

- *scientific*: use of an acquisition theory;

– practical: organization of the didactic units in three concrete predefined phases in a predetermined order, "Presentation→ Practice→ Production;

- methodological: the communicative approach;

- ideological: the orientations of the IDE as denounced by B. Kumaravadivelu.

After examining the results of the analyses, the medical diagnosis seems easy to me: many specialists in international English didactics are affected by a particularly virulent form of applicationism. And the prescription for their treatment seems to me to be just as easy to write: "In-depth reflection sessions on the epistemology of the discipline 'didactics of languages and cultures' until the PPP (or PBL) symptom disappears, and the complexity paradigm appears"...

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## THE TREATMENT OF "MODELS IN INTERNATIONAL ENGLISH DIDACTICS: A REDUCTIVE EPISTEMOLOGICAL CONCEPTION OF THE DISCIPLINE. THE EXAMPLE OF THE PPP "MODEL" (*PRESENTATION, PRACTICE, PRODUCTION*). ESSAY

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This essay takes the example of the PPP model (Presentation - Practice - Production) as it has been used for decades in international English didactics, to criticize a certain conception of "models", and, beyond that, a certain conception of the epistemology of the discipline "didactics of languages and cultures". The essay begins with a long first part in which I present the opposition between "theories" and "models", as well as the different forms, functions and types of models in didactics that must be taken into account in order to apprehend and manage the complexity of the discipline. In the second part, I present the different reductions of this complexity that many specialists of international English didactics make in their use of the PPP model. They conceive of the model as a product based on a theory of acquisition - hence the recurrent debate among them between the proponents of this PPP and those of the TBL (Task Based Learning) model - and not, as the complexity of the discipline would require, as a process of "praxeologization" in the course of which this model is tested, explored and manipulated by means of variations both internally (modifications, additions) and externally (in combination or articulation with other models. When we look at the results of the analyses, the medical diagnosis is easy to make: many specialists in international English didactics are affected by a particularly virulent form of applicationism. And the prescription for their treatment seems just as easy to write: "In-depth reflection sessions on the epistemology of the discipline 'didactics of languages and cultures' until the PPP (or PBL) symptom disappears, and the complexity paradigm appears"...

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