The 8 Learning Events Model: a Pedagogic Conceptual Tool Supporting Diversification of Learning Methods

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Abstract

This paper presents the 8 Learning Events Model (8LEM), a pedagogical reference framework which was used, in more than 100 online course, as a starting point for instructional planning. Besides supporting teachers in early stages of the learning design continuum, the paper shows how this learning/teaching model, as a professional development tool, prompts them to diversify the learning methods experienced by students in their courses. A two-pronged rationale about the importance of this diversification with respect to "mathetic" competence development and epistemology is also proposed to discussion.

Keywords: mathetical competences, learning methods, teacher's professional development.

1. Introduction

Any teacher or instructional designer, who ponders over the best way to (re-)design a Unit of Learning (UoL), personalized or not, is confronted to a very wide range of possibilities. Quite soon, he/she will feel the need for a handy and ready-to-use model helping him/her to interpret the reality, to reduce its complexity, to guide choices and actions, to rely on a communicable reference vocabulary, to allow him/her safely moving further toward finer-grained concerns.

Founding one's work on such a reference model is what separates the experienced practitioner from the novice one, what makes the difference between "learning/teaching recipes" and informed practice. Recently, authors working in the realm of instructional design construction [1] and personalized course delivery [2] drew attention on the danger lying in a pedagogically unframed development of learning objects, recommending therefore an up front adoption of some of the existing instructional events models. Working with a model allows also making the instructional design and its rationale "explicit" [3] or "transparent" [4] to the user, helping to defuse the "neutrality" usually professed by providers of e-Learning systems and standards [5, 6, 7].

The 8 Learning Events Model (8LEM) is one of the available models. Created by Leclercq and Poumay [8], it is extensively used by Labset (Support Lab for Telematic Learning), a 30 people research unit of the University of Liège, Belgium, for helping professors and trainers from public and private organizations design and develop their own courses and activities on the Internet. (The website http://www.elearning.ulg.ac.be, section "demos 02-05", provides – only in French - examples of the use of 8LEM in the shaping of 24 online courses). In the first section, we concentrate on the main features of the model and its location on a "learning design continuum". In the second section, we describe the

practical way it is used with academy, especially for inviting them to vary the learning/teaching paradigms in the shaping of online activities (and possibly pedagogical patterns [9]) they design. The last section advocates for a renewed attention to this diversification issue, considering its relationship to mathetical competence development and epistemology.

2. The 8 Learning Events Model

2.1. Features of the model

The "8 Learning events model" introduces standardization of basic teaching and learning activities. It is composed of 8 documented teaching/learning events, i.e. ways of learning. This high level tool-kit provides guiding principle for taking decisions about how to divide the continuum of pedagogic practice into pedagogically meaningful parts. The 8 events are basic activity types (see figure 1) which can be applied in any context wherein activity structures' analysis and building are at stake.
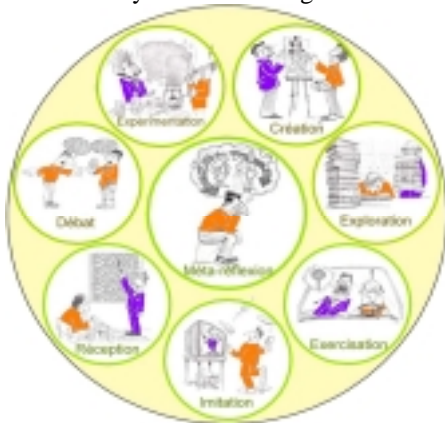

Fig. 1 - The 8LEM is a catalogue of 8 Learning Events describing the multiplicity of learning/teaching experiences

The 8LEM is a learning/teaching model, thus tackling both the learner and the teacher at the same time. It connects in a systematic way both the student's demand and the teacher's supply, and their interrelations (see figure 2). Learner and teacher's actions are complementary and interdependent, just as the two faces of a bivalve shell (such as a mussel or an oyster): observation/modeling, reception/transmission, exploration/documentation, self-reflection/co-reflection, debate/animation, creation/, creation/confortation, experimentation/reactivity, exercising/guidance. Providing an operational entry to learning, the model focuses mainly on cognitive aspects when considering the learner. (As such, it, at first

glance, reflects the "acquisition metaphor of learning". But, when considered as a teacher's professional development, the model, as a artifact/process of pedagogical inquiry for practitioners, seems to have some features common with the "knowledge creation metaphor" [10]).
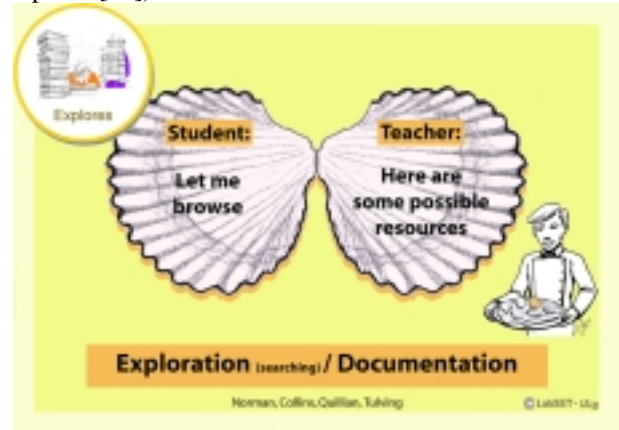

Fig. 2 - Example of mutual dependencies of learner's needs and teacher's supplies for the "Exploration" learning event

Other features of the model include a firm root in pedagogical theories, a concept-domain neutrality and cognitive facilitators (number of components kept in the limits of human capabilities [11], vocabulary located at an appropriate level of conversation [12]) for understanding and retention by practitioners. Incidentally, the use of 8LEM can also end up in a still rough but complete graphical design of learning flow (see figure 3), expressed in terms of learning experience types a learner is invited to traverse. Helping practitioners getting a quick grasp of what a UoL is becoming an issue of its own [13, 14, 15].

Fig. 3 - The 8 LEM allows for an understandable and systematic structuring and representation of UoLs

2.2. Location of the model

LabSET's work demonstrates that before having a UoL working online, teachers and trainers go down a path of progressive refinements, which we call, after Casey [16] a "learning design continuum" (see also Pernin [17]). Burgos [18] has a similar approach when

he suggests a comparison between making an UOL and making a movie (see figure 4). In both cases, the path starts from rough descriptions and goes up to formal, machine-readable, designs. At each step, teachers need specific guidance, conceptual and technical tools.
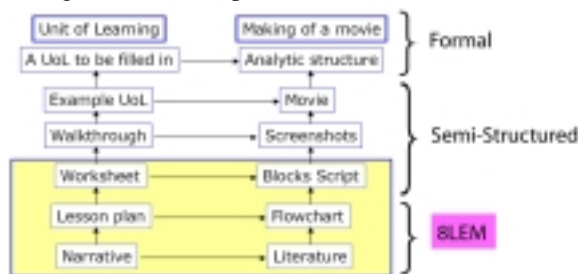

Fig. 4 – Teachers benefit from the 8LEM in early stages of the learning design continuum

As a clarifying framework of the design elaboration process, the 8LEM will prove mostly useful during an analysis phase completed by speaking with stakeholders and using generally free textual descriptions and paper-based documents. This stage of the instructional design process is the time during which major learning methods orientations must be chosen regardless the detail of their future implementation. This instructional planning, affording a low degree of formalisation of designs, deals with the "how to learn/teach?" issue. As Griffiths [13] notes: "At the UNFOLD Community of practice meeting in September a number of teachers and learning providers voiced their opinion that a methodology (or, more probably, methodologies) would be required for the first stage of analysis and the creation of the didactical scenario". Casey [16] expresses similar concerns about high-level of expression for UoLs: "(…) we need to also recognize the rougher and more tentative conceptions of pedagogy that practitioners really use". 8LEM is one possible support tool for this early phase of the instructional design process. Related to the IMS-LD, for example, it sets the stage for subsequent formalization, helping to link first teacher's reflection about what their future course will be to the official starting point of the methodology: the UML activity diagram [19, 20].

3. Descriptive/prescriptive use of the model

8LEM provides teachers with two types of help, descriptive and prescriptive. As a descriptive aid, the model is used to analyze an existing training strategy/teaching sequence. Its controlled vocabulary makes easier the identification of complex scenarios'

elements. As a prescriptive aid, the model provides the framework for the creation of a new training sequence or for the enhancement of existing ones. So doing, it also acts as a support to educational creativity. The 8 learning events represent both a common ground and an exploratory territory for teachers. On the one hand, teachers have already experienced some of the events composing it. On the other hand, by bearing in mind a comprehensive model, teachers are invited to commit to new approaches of learning/teaching. 8LEM is intended to facilitate an improvement of rigor and at the same time to trigger pedagogical creativity.

Fig.5 - 8LEM is used in a descriptive/diagnostic function (the stethoscope's metaphor) or as an incentive for pedagogic creativity and diversification (the palette's metaphor)

4. Rationale for the variation of learning experiences

Although each learning event may fruitfully be used independently of the others, the model encourages the diversification of learning/teaching practice, by virtue of its own characteristics (restriction of number of events to eight, vocabulary pitched at the instructor's level, descriptive/creative modes). One of its underpinning principle is that variety benefits not only to current learning activities but also trains students to learning to learn. Should this assumption be confirmed, the diversity of learning experiences by which the learner is encouraged to learn would emerge as a criterion of educational quality. But why to vary? The model puts forward a number of reasons.

4.1. Diversification and mathetical polyvalence

Coined by Gilbert [21], the term Mathetics comes from the ancient Greek verb "manthanô", namely "to learn". It is further elaborated by Papert [22] who equates it to the "art of learning" and argues that "the kind of knowledge children most need is the knowledge

that will help them get more knowledge" (p. 139). Alava [23] proposes a more comprehensive definition of mathetics: "To study mathetics is to study the whole of the procedures and social, cognitive and informational strategies used by the student to learn". Leclercq [24] takes up the word "mathetics" and enriches it with the notion of "polyvalence" meaning that it is in the learner's interest to gain exposure to a whole range of learning modes in order to become a more competent learner, polyvalent in exploiting the variety of methods, resources, constraints, etc. This polyvalence becomes an even more urgent necessity in a "'knowledge society" as this experience of diversity prepares the learner to take advantage of any future learning occasion [25]. By being offered such a variety of methods, students will be supported in the development of their abilities for "learning to learn". Thus, regardless of subject matter, one of the preoccupations of teaching becomes to ensure that learners are confronted with a variety of methods, resources and constraints, some of which may be completely new to him or rarely practised. For Leclercq, to the learner's "mathetics polyvalence" corresponds the teacher's "didactic polyvalence", i.e. the capacity to organize diverse quality learning experiences. Facilitating the spring of "polyvalent learners", the 8LEM provides a tool empowering educators for offering their pupils a rich, i.e. multi-faceted, learning experience. (This concern with the diversity of learning experiences, incidentally, intersects with discussions on learning styles theories. An instructor aware of the heterogeneity of learning styles will organize educational sequences in such a way that they incorporate a certain degree of variety, in order to multiply his chances of "motivating" a wider spectrum of profiles).

4.2. – Diversification and epistemology

The advantage of covering a subject by means of varied events does not lie purely in the fact that it trains the learner in a variety of learning methods. It also has an impact on the content itself. Varying events also means, over and beyond the question of methods, constructing and enriching the concept and the conceptual network associated to it. A medical student will have a particular idea of the stomach if he reads (reception) documents about that organ. But he will perceive a different facet if he is invited to perform a free dissection of a stomach (exploration). His conceptual network will be enriched further if, as an observer, he attends a stomach operation (imitation). When he himself has practised stomach operations (drilling), his conception of the stomach will have evolved still further. Finally, when he engages in discussion with his peers (debate), his conceptual network will expand even further. As well as experiencing various learning methods, he will in so doing have developed a multimodal approach to the concept in question. In this respect, the model is consistent with a general claim made by educational psychology (Paivio, Miller, Gartner and others) that the deployment of multiple learning channels reinforces learning. Although, the 8LEM remains primarily focused on learning methods, it does have a secondary impact on the contents of learning. Moss [26] provides an example strikingly similar to the previous one coming from veterinarian field: "We could learn a great deal more about dogs if we worked with dogs of different breeds, ages, and temperaments than if we only worked with only one dog. To extend that example, we could learn even more about dogs if we worked with a variety of them across settings - in the city, in the country, when other people were present, when other dogs were present, and when other animals, like cats and birds, were present. But those are just some of the contexts that would influence and expand our learning about dogs. What if we had a group of dog experts with whom we could discuss our understandings as we were learning? What if we could post to a bulletin board to discuss our observation that the Cairn Terrier has an extremely loud bark? Would the discussions that ensued influence our understanding? What if we were able to talk with someone privately through e-mail to discuss concepts that we did not understand or that we would like to clarify? Learning about dogs in a variety of contexts would extend the chances that we could apply what we learned about dogs to new contexts. In other words, the ability to apply newly constructed knowledge in new circumstances depends in part on the variety of circumstances in which we have learned or practiced the information or skill". A "multimodal approach to concepts" might provide an overarching principle for the organisation of diverse learning. Noss [27] and Polhemus [28] seemingly convergent concerns with this issue of mathetics/didactics multi-faceted diversification.

5. Conclusion

The design of an online course is a unique opportunity for staff development [16]. The model presented guides teachers and learners to diversify learning and teaching with regard to pedagogical approaches. It motivates learners and teachers to reflect

the design of courses as well as learning, and teaching itself. The 8LEM acts here as a lever leading teachers to start reflecting about their current courses instead of "just making a course". Progress in professional practice is achieved by inviting educators to articulate their current practice and, possibly, to innovate by extending their teaching/learning methods repertoire. Subject to this second challenge, the 8 LEM stresses the value of ensuring a good balance between learning modes, taking for granted that an educational activity ought to take into account products and processes. The practical realization of this educational ideal – a diversified panel of learning experiences offered to students – probably entails extra reflection from the very start of the learning design continuum. In this paper, the mathetical and epistemological benefit of this diversification is promoted within an intra-individual perspective. But as the multimodal approach of concepts entails in any cases the design and the delivery of a variety of learning experiences organized around learning objectives, future research will focus on the extent to which assets produced for serving this approach might also be re-used within a personalized instruction context which drives similar attention to diversification.

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