- **Content-based approaches**

In this section, we will use a course that has been developed at the University of Mauritius as an example. The CSE 1010E (Introduction to Information Technology) was initially delivered through print-based distance education mode and it became the first module to be delivered online at the University of Mauritius on a very large scale (~ 1000 students). The CSE 1010E module (Figure below) has now been delivered without any major problems, for approximately four academic years now. The module is hosted by the University of Mauritius Virtual Campus, which provides the technological infrastructure and pedagogical tools to enhance the teaching and learning process.
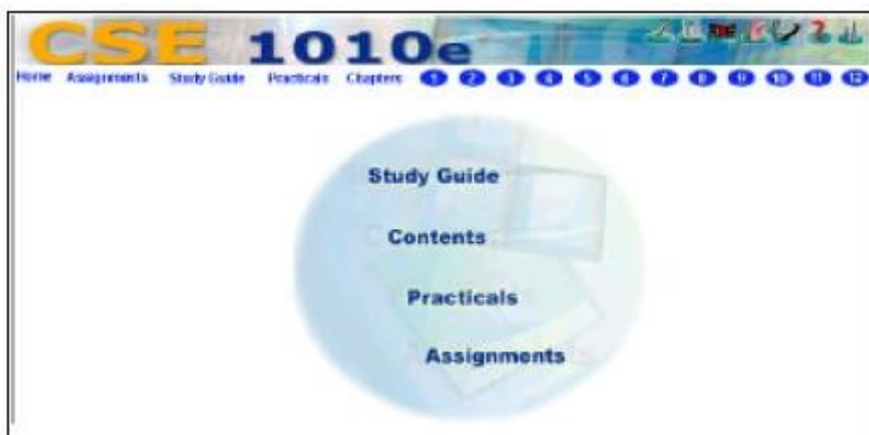

Figure illustrates the 'home page' of an online module

Students have an online study guide (also available in print format) where they have access to an instructional plan that helps them in their learning. They get instructions about chapters to read and exercises to carry out. The contents section provides students with a multimedia learning material arranged in a hypertext structure that helps them to understand concepts easily. Students also have access to a range of self-assessment questions for each chapter. The assignments and practical sections contain necessary information about continuous assessment and hands-on activities to be carried out in the lab. Students also have access to online discussion forums where they can discuss with peers and tutors about concepts and topics related to their module. Participation on online forums does count as part of the continuous assessment.

Designing for this type of courses involves traditional instructional design methodology and a conversion of this module from a traditional distance learning module to an elearning one can be simply seen as merely a reproduction of the same material in electronic format i.e. we achieve a change in the delivery medium. The only special skills needed here is web designing and usability design which is normally carried out by the web communication designer and web multimedia developer and the instructional designer who oversees the process. An evaluation of the module from a cognitive perspective (Santally & Senteni, 2004) revealed that the module was only an electronic

version of the print-based distance education materials that was previously delivered to students. The module was rated average from the evaluation since it was obvious that the instructional design process for print-based material cannot be directly applied for e-learning courseware design. Even when the module migrated in an online environment, the contents, assignments and evaluation modes remained the same. In short, the behaviorist approach was still prevailing. Students, in this case would prefer to print the materials to read since the content-based chapterwise approach was used in the design of the module. As a result, it was not seen to be adding to the learning process. Having students to save html pages to print later at home would not be considered good pedagogical practice as it would be easier to give them PDF versions of the documents.

- **Activity-based Approaches**

In the activity-based approach, the pedagogical design is more centered towards knowledge construction, socialization and collaboration based on a set of authentic activities (Figure below) that will help the learners develop an understanding of the subject matter, formulate personal learning goals depending on their professional interests and to use a set of pedagogical and technological tools to support them in the process.
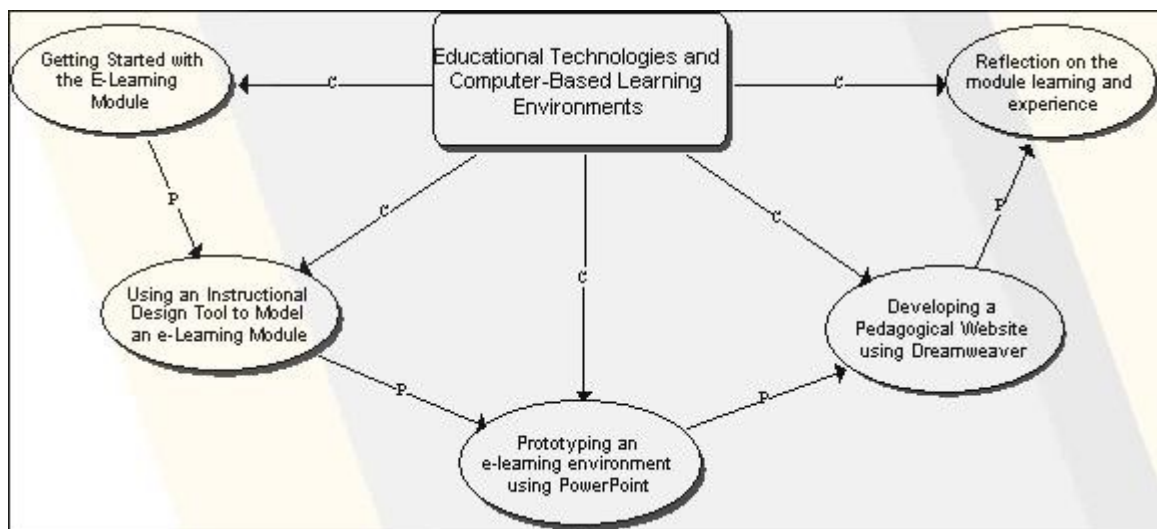

Figure shows a module made up of structured pedagogical activities and scenarios

The module shown above consists of five activities that need to be carried out sequentially throughout the semester (15 weeks). However, there is also a continuous assessment activity that consists of forum participation that is transversal to every other activity included in this module. Activity 1 (Getting started) is not marked. However, since participation on forum spans overall the module, student's intervention on the forum for this activity is very important. All the other activities [2-4] carry equal weightage in the assessment process. Activity 5 is marked similarly to activity 1 that i.e. forum participation is essential in these two activities. Students who do not participate on the forum for these two activities will get no marks for forum participation even if they actively participate on other issues. The figure below illustrates how the module is organized in terms of activities.

The guiding principles governing this approach rely heavily on a learner-centered approach focus on flexibility, autonomy and commitment of the learner towards the learning process. While the learning activities should incorporate well-structured scenarios, the teacher is seen as a "facilitator, orchestrator and manager" in such a learner-centered environment (Schneider, 2003). However, a flexible approach needs to be adopted while structuring the activities. For each activity, there is a tentative plan that is given to the student to guide him through the weeks over which the activity spans (figures below).
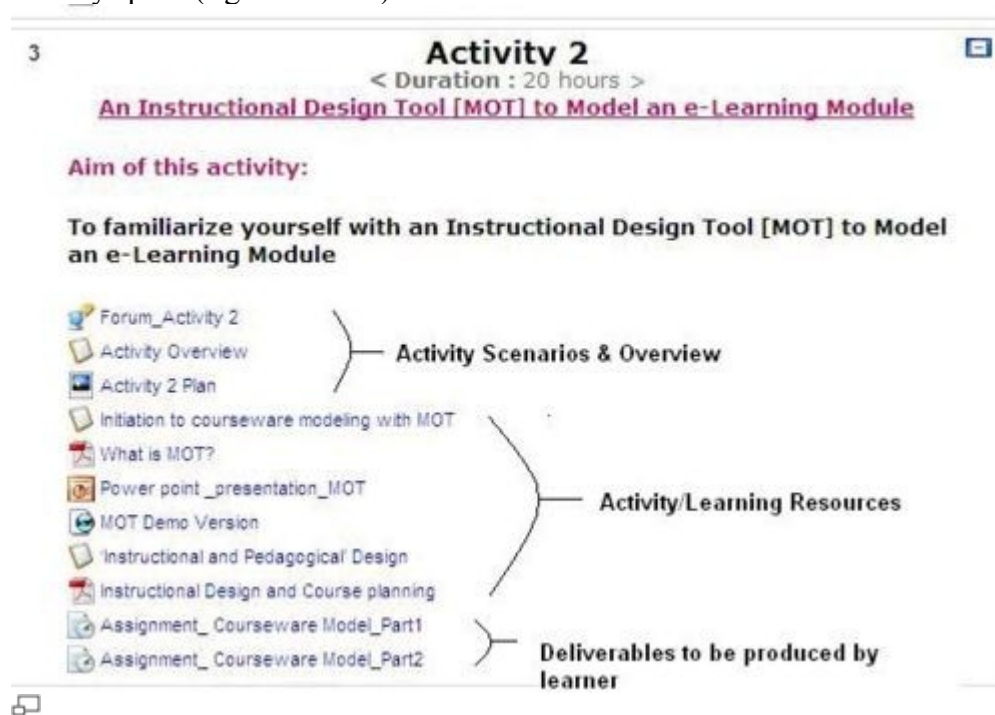

Figure illustrates pedagogical structure of an elearning activity

However, the student can change or adapt the plan according to his/her own preferences and decides on his/her own (most of the time negotiated with the teacher) how to allocate his/her time and effort on the different steps of the activity. The essential thing is that the student completes the learning activity and achieves the established learning outcomes.

Tasks	Modality	Week	Duration	Exchanges	Notation
2.1: Initiation to courseware modeling with MOT	Individual	2	7 hr	Forum: Modeling an e-Learning Module	None
2.2: Tutorial on Instructional and Pedagogical Design	Individual	2-4	7 hr	Forum: Modeling an e-Learning Module	None
2.3: Elaborate the courseware model	Individual	5-6	6 hr	Forum: Modeling an e-Learning Module	15 %

Tentative activity plan suggested to the student