



## European E-tutors – inductive models for on-line lecturing in synchronous collaborative environments

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This paper specifically focuses on e-tutoring in a synchronous environment with reference to the eTUTOR pan-European project. The eTUTOR project aims to analyse a variety of case studies so as to build on existing literature and present practice in order to generate a set of guidelines for e-tutors. The eTUTOR team includes Trinity College Dublin, Ireland; INSA de Lyon, France; UPM Madrid, Spain; University of Thessaloniki, Greece; and University of York, in the UK. Each partner is committed to experimenting with e-learning environments and delivery styles specifically in relation to multicultural, synchronous and collaborative situations.

**Keywords** synchronous learning environments; e-tutoring, on-line collaboration

### 1. Introduction

As e-learning evolves and becomes more widespread there is a need to explore best practice and from it distill pedagogy for e-tutors. The eTUTOR project, has undertaken to explore variables in pan-European countries including: Ireland; France; Spain; Greece and the UK. Each partner is delivering on-line learning and building on existing literature and present practice to generate a set of guidelines for e-tutors. The project aims to explore multicultural, synchronous and collaborative situations (MCCS environments) and this paper will specifically examine the collaborative element of e-tutoring process.

In an MCCS environment, the higher the possible level of collaboration between key players, the greater the level of preparation that is needed for the scenario and the more important the vigilance of the e-tutor during delivery. In an e-learning environment, teachers and learners collaborate, learners collaborate with their peers, technicians collaborate with the students and the teaching team, lecturers collaborate with other lecturers (often from different countries) and visiting lecturers, topic experts, and guest students collaborate as well. There may also be collaboration in relation to the design and development stage of the e-learning activity. Of course much of this collaboration takes place in synchronous environments adding to the potential for both chaos and creativity. It is the role of the e-tutor to tread a fine line between the two.

### 3. An inductive methodology

*“... the innovative use of technology often only occurs within the classroom, and not very often between classrooms, across entire schools, or between schools and other institutions and organisations” ([1] Rambol Management, 2004; p. 215).*

The EU funded study on Innovative Learning Environments for School Education reconfirmed that teachers in schools were still not reaching out internationally, pointing to the fact that education as a profession has not taken on an equal breadth to its depth. Creating breadth from in-depth classroom practice is a balancing act as standards and formulaic teaching practices can hold back innovation, which

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1 is key to the successful evolution of e-learning. The set of guidelines presently being developed by the  
2 eTUTOR team are thus gleaned first from the literature and previous experiences and then from reflec-  
3 tive and cross-cultural comparisons of the teaching practice of the team members. Here we explore an  
4 initial set of guidelines for e-tutoring in synchronous environments.  
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### 6 **3. Calls for collaborative learning**

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8 Providing guidelines for e-tutors is key to supporting educators in selecting effective instructional  
9 strategies. We believed a good place to start are instructional strategies that are explored in teaching  
10 with learning technologies such as constructivism (social constructivism); scaffolding (providing sup-  
11 port for activities just beyond the learner's level [2]; learning to support metacognitive and reflective  
12 learning strategies; and accessible learning for as wide a range of learners as possible.

13 Traditionally, instructors in teacher-centred classrooms have been expected to structure and control  
14 the flow of information to their students. There is an expectation that the teacher is all-knowing and thus  
15 has all the answers. The use of on-line teaching environments gives students the ability to piece together  
16 knowledge as information is now more easily available in different places and delivered in a wide vari-  
17 ety of ways. Access to resources is just one aspect of e-learning that is changing the student position  
18 from a recipient to a creator of knowledge. Encouraging active and collaborative learning, contact with  
19 international experts and as well as direct contact with the instructor are factors changing the context of  
20 learning.

21 Vygotsky [3] is credited with drawing attention to the need for social interaction when learning and  
22 argued that students can learn better if they are interacting with others. Collaboration is key to many  
23 aspects of new curriculum developments across Europe where students are now expected to acquire  
24 skills of working independently and collaborating with others. Any e-learning course should, therefore,  
25 provide students with on-line opportunities to develop their skills of social interaction. Collaborative  
26 learning is one way to take account of the range of intelligences that are now recognised in modern soci-  
27 ety [4]. Jonassen [5] argues that relying on a single method of representing knowledge result in lost op-  
28 portunities to develop learner's thinking skills. E-learning environments also have the potential to sup-  
29 port communities of practice [6] and to develop collective cognitive responsibility [7].

30 Holmes *et al.* [8] contended that learning should be *for* not just with others, a way of learning they  
31 call communal constructivism. When communally constructing information learners are able to both  
32 enhance their own learning experience and that of others. These and other social aspects are an impor-  
33 tant consideration when attempting to produce optimal learning situations and enable students to create  
34 knowledge for themselves.  
35

### 36 **4. e-tutoring in collaborative synchronous environments**

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38 When e-tutors collaborate with students in on-line and blended (a mix of on-line and face-to-face)  
39 environments, the e-tutor should be able to motivate positive group dynamics, increasing the students'  
40 ability to work together and to cooperate with one another, while maintaining the students' interest in the  
41 subjects being studied. All of these tasks are challenging for any tutor but can be more so in on-line envi-  
42 ronments where tutor and students may have never met face-to-face.

43 The design of on-line learning spaces can, however, ease collaboration and communication. The  
44 following are typical features of virtual learning environments and learning management systems that  
45 can act as supports.

- 46 • Tracking students when they are online (seeing for example, 'where' they are in the on-line en-  
47 vironment and also how long they have spent on different activities).
- 48 • Providing tools to communicate with the whole class and also contact and accept messages from  
49 individual students.
- 50 • Feedback mechanisms through digital drop boxes, tracked content etc.
- 51 • Tools that allow students to take the floor – such as clicking on 'hands'.  
52

- Video and voice supports as well as student homepages, aid in providing a personal touch to the communication.

#### 4. Key steps in e-tutoring

Based on our own experiences, we wish to advocate a step-by-step lecturing style wherein ownership of knowledge slowly passes from the expert to the novice. We believe that both teacher-centred lecturing and student-centred knowledge creation are important to the learning process and that one follows the other. Equally, a focus on technology in the initial stages of the course is important to move to a fluid use of the technology for communication by the end. This does not mean that the initial stages of the course are ‘dumbed down’, instead we would argue that before the cognitive load becomes too specific or dense, students should be challenged to explore some of the deeper ideas of the discipline. This way, they can enter into the learning process with their own ideas rather than just learn each key concept in turn.

**Step #1 - Introduce communication tools.** Explore the communication tools together in an introduction session – while challenging students with a vision for the course or their learning. Here is a good opportunity to combine low level technical exploration with higher-level thinking. Ask students to tackle one of the deeper questions of the discipline.

**Practical example #1** - In the field of e-learning, students were asked to develop a theory of learning in advance of consulting the literature.

#### **Step #2 – Establish communication norms.**

The E-tutor team argues that there is a need to re-create the spatial, cultural and temporal references that students can find in a classroom. It is our belief that students need this unvoiced, implicit structure that helps them feel that they are in a learning situation and thus respond accordingly. The first document or communication of the day should, for example, indicate the course topic, the date, the name of the teacher, etc.

**Practical example #2** - Here the TCD team used TappedIn ([www.tappedin.org/](http://www.tappedin.org/)) which has the facilities to create an on-line ‘office space’ complete with a whiteboard, notes etc. This allowed students to feel part of a similar space to the lecturer’s office before heading out into more virtual environments. E-tutors can also meet students in their on-line office as they would when holding ‘normal’ office hours.

#### **Step #3 - Scaffold student exchanges.**

We advocate the promote student-led discussion first through Q&A, short presentations, then debates and finally collaborative exchanges. An online synchronous learning environment is ideally suited to supporting students as discussion leaders but to lead straight into such an activity may not be possible and may lead to period of silence and inactivity. Following the step-by-step approach outlined above would support increased on-line collaboration and communication. We believe that an e-learning environment can create a more equal environment for students than say a large lecture hall, and a synchronous environment will allow the student more experience in assuming the role of the lecturer than an asynchronous environment would. Also group leadership can be rotated to support the development of leadership skills across the class.

#### **Practical Example #3 - Rotate team leaders and membership**

In the eTUTOR e-learning environment, many groups have worked face-to-face synchronously and this has provided a good opportunity to vary the membership of the different teams so as to allow each a chance to work in a variety of groups.

#### **Step #4 – Practice what you preach.**

Collaboration between instructors is key when teaching across multiple institutes and when modelling good practice. If a course is divided into modules and these are assigned to different instructors (often residing in different countries) then it is clearly important for the instructors to collaborate on the

1 content of each module and on a common framework for the presentation of teaching material. This  
 2 involves the entire process including stating the objectives and presenting the theoretical parts of each  
 3 module and when carried out in an e-learning environment this models good practice.

#### 4 **Practical Example #4 – Graduating students aid in redesigning virtual lectures.**

5 As part of an examination of good practice in Trinity College Dublin, we explored how students would  
 6 have enjoyed being taught specific concepts. We asked a student who had volunteered in a questionnaire  
 7 to take part in further research, to aid the team in exploring how to teach the topic: Network Security.  
 8 The student (who had taken the class the year before) and the lecturer devised an on-line, wireless lecture  
 9 where students broke into groups and attempted to devise unbreakable encryption for their own messages  
 10 while trying to decipher those of the other groups. We believed that this lecture successfully embodied in  
 11 the delivery the concepts that were being put across.

### 12 **5. Conclusion**

13 Teaching in collaborative synchronous situations requires a variety of responses including changes in  
 14 pedagogy as instructors move from lecturing to taking the role of facilitators of information while guid-  
 15 ing students toward solutions all within the timeframe of a module. In order for online learning to be  
 16 successful, teachers as well as learners will need to explore new roles in the teaching-learning  
 17 relationship. The literature suggests that scaffolding is key to aiding the learner in achieving their poten-  
 18 tial and the eTUTOR project allows us the opportunity to explore how best to scaffold in on-line envi-  
 19 ronments. We have set out 4 steps in the process of moving learning into students' hands that we ex-  
 20 plored specifically at Trinity College Dublin and also within the eTUTOR team. In the experience of e-  
 21 tutors in this team, cross-cultural collaboration has a positive effect on the teaching activity within each  
 22 country in that it assumes and allows the exchange of methodologies among teachers. This, we believe,  
 23 greatly enriches the e-tutor process.

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 27 ([http://europa.eu.int/comm/education/programmes/elearning/projects\\_2003/etutor.pdf](http://europa.eu.int/comm/education/programmes/elearning/projects_2003/etutor.pdf)).

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