

Online learning strategies that work: real examples
(with an emphasis on strategy planning)

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Background

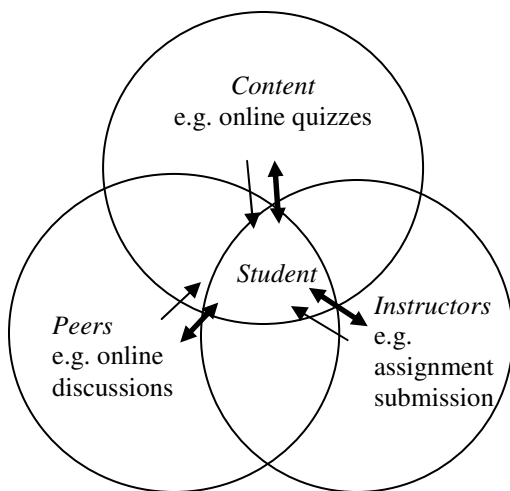
There is a growing trend in the use of web technology for the support of learning and teaching in universities worldwide as the potential benefits that eLearning can bring to learning and teaching are diverse. Hatzipanagos (2005), for example, talks about the use of the web as an important resource-based learning (RBL) tool which thus promotes student-centred learning. Laurillard (2001) and Wenger (1998) talk about social learning through the building of ‘communities of practice’ using web technology, making it possible for learners to learn through discussion and collaboration.

The right questions to ask regarding eLearning now seem to center around *how* technology should be used in order to realize these potential benefits. However, regarding how eLearning is used, Atkins (1993) remarks that multimedia designers are adopting an eclectic ‘pick ‘n’ mix’ approach, making eLearning strategies rather post hoc. He further notes that “what seem to be missing are models of learning appropriate for the design opportunities offered by the new technologies (p. 251)”.

It is thus very important that practitioners know the components and pedagogical objectives involved in eLearning in order to do detailed and informed planning prior to development and implementation. This paper illustrates one such way to do eLearning planning and the decisions involved in the process.

Components of eLearning

The same authors have established in another paper (Online learning strategies: Interaction examples that work) in this same volume of proceedings that eLearning strategies, following Swan’s (2003) framework, can be broadly classified into three categories based on the nature of interactions involved. Repeated



briefly below, they are eLearning strategies that facilitate *interaction with content*, *with instructors*, and *with peers*. Online quizzes, for example, involve learners mainly in interacting with content. Forum discussions, used as a form of group-learning tool, involve interactions with peers. Online assignment submission is one way to use the web for assessments in which learners and the instructors interact. The model, illustrated in Figure 1, depicts how a student can act on and get responses in the three different ways.

The above-mentioned paper also suggests that these interactions can be simple or enriched. Simple interactions are one-directional and with limited feedback and exchanges. Enriched interactions are two-directional and negotiation of meaning is possible.

Figure 1: Simple and Enriched Interactions

The paper further described a number of web strategies that are seen to be able to generate interactions of the enhanced type.

The following online activities and/or resources listed in Table 1 indicate how students can interact with content, instructor, and peers.

<i>Tend to enable simple interaction only</i>	<i>Enriched interaction possible</i>
Content	
<ul style="list-style-type: none"> • Course background • Teachers' information • Announcements • Notes and PowerPoints • Past papers • Archives of student work 	<ul style="list-style-type: none"> • Multimedia-rich explanations of concepts • Cases and issues • Simulations • Online quizzes Cases and stories in the field • Extended readings • Concept mapping of subject topics • Linkage to other web resources • Readings on learning skills
Instructor	
<ul style="list-style-type: none"> • Online discussion with teachers using forum/ email/ icq/ chatroom/ video conference, etc. 	<ul style="list-style-type: none"> • Feedback on assignments • Online community
Peers	
<ul style="list-style-type: none"> • Online discussion using forum/ email/ icq/ chatroom/ video conference, etc. 	<ul style="list-style-type: none"> • Web-based group projects • Online community

Table 1: Simple and Enriched Interaction Strategies

Pedagogical Objectives

The other important dimension to consider in planning eLearning strategies is to know the purpose to be achieved. It is clear that there is not a single site, an online activity, or web resource that is able to achieve every learning and teaching goal imaginable and there is also no single eLearning case that will make use of all the possible web functions. A focus has to be set and effort has to be directed to achieve the few goals most valued by the teacher. Thus, online activities and resources should be selected according to how they match with the selected goals.

With this in mind, an investigation was carried out to look at the pedagogical objectives of the eLearning experiences supported by the e3Learning Project with an aim to sort out the most common goals teachers wish to address.¹ The investigation involved 70 purpose-built websites and learning objects which have been systematically evaluated. The experiences are from a variety of disciplines utilizing many different web tools and methods (such as animations, simulations, quizzes, and peer critiques). Teachers in these 70 cases all had detailed discussions with the researchers before their eLearning development and implementation. Common in the discussions were the following seven recurring themes or objectives:

1) *Class management* – Teachers want the web to help with class management issues such as more convenient distribution of notes and PowerPoint slides, better announcements of deadlines and events, and a quick and fast place to get course background and teacher information. An easy-to-use file exchange and storage system is a must to fulfill this purpose.

2) *Learning enhancement* – Teachers use the web to help students to learn. They may target different levels of cognitive reasoning according to Revised Bloom's Taxonomy (Anderson and Krathwohl, 2001).

Simple self-assessments (which can be feedback-rich and/or media-rich) may be good for helping remembering and understanding, exercises related with cases and problem-solving activities may be good for higher levels like applying and analyzing, and online group projects and discussion can be activities that facilitate the evaluating and creating cognitive domains.

3) *Motivation and affect* – The web may be used to motivate students to learn. Regarding affect, some teachers hope the online materials or activities can in some ways make students feel more interested in and have a stronger feeling towards the subject. For example, a teacher of a nursing course has asked her students to write reflective journals about their ward experiences in the hope that true and personal stories will let students see the value and responsibility of their profession.

4) *Approaches to learning* – Teachers want students to take a more active and deeper approach to learning. Students no longer learn passively but become more inquisitive and active in learning, dig deeply and research the subject areas rather than merely reading the required textbook. Putting up extensive extended readings online and giving students the autonomy to manage their own study pace and sequences may help to promote this.

5) *Engagement* – Another common objective teachers want eLearning to achieve is to encourage students to spend more time on the subject. Many web learning platforms such as WebCT and Blackboard have sophisticated systems to track students' logs. Setting online activities such as quizzes and discussions and closely monitoring students' participation are commonly used strategies to keep students engaged.

6) *Generic learning skills* - Another objective commonly held by teachers is to improve students' more generalizable learning skills such as problem-solving, group-working, communicating, and self-learning. Various activities are helpful in developing the various targeted learning skills.

7) *Communication* – Lastly, teachers have the purpose of improving communication so that student-student and teacher-student dialogues are not limited to face-to-face class time. A better class relationship can be developed and maintained due to the availability of additional channels in which the students and teachers can express their ideas.

eLearning Design: the Right Components for the Right Potentials

The decision process of planning eLearning this paper would like to put forward involves three steps. First, designers should make clear the objective(s) they want to achieve. Second, based on the objectives, decide what type(s) of interactions students will experience via on the web. And third, select the best matching and most affordable (in terms of development and maintenance time / effort) web resources to develop and/or online activities to implement.

Conclusion

In designing eLearning goals, it is very important to first know the pedagogical objectives desired, and the various web strategies available. Good planning helps teacher-designers to: 1) stay focused, 2) know what they really want, and 3) spend resources intelligently. The present paper has suggested a way to streamline this decision process by proposing a step-by-step decision process facilitated by the 'eLearning Design Decision Matrix'. The matrix contains short-listed common objectives and common web strategies collected through the authors' experiences through working with teachers on numerous eLearning projects for three universities in Hong Kong.

	Class management	Learning remember / understand	Learning apply / analyze	Learning evaluate / create	Motivation and affect	Approaches to learning	Engagement	Generic learning skills	Communication	Others
Content <i>Tend to enable simple interaction only</i> <input type="checkbox"/> Course background <input type="checkbox"/> Teachers' information <input type="checkbox"/> Announcements <input type="checkbox"/> Others... <input type="checkbox"/> Notes and PowerPoints <input type="checkbox"/> Past papers <input type="checkbox"/> Archives of student work										
Content <i>Enriched interaction possible</i> <input type="checkbox"/> Multimedia-rich explanations of concepts <input type="checkbox"/> Cases and issues <input type="checkbox"/> Simulations <input type="checkbox"/> Online quizzes <input type="checkbox"/> Cases and stories in the field <input type="checkbox"/> Others... <input type="checkbox"/> Extended readings <input type="checkbox"/> Concept mapping of subject topics <input type="checkbox"/> Linkage to other web resources <input type="checkbox"/> Readings on learning skills										
Interaction with tutors <input type="checkbox"/> Online discussion using forum/ email/ icq/ chatroom/ video conference, etc. <input type="checkbox"/> Others... <input type="checkbox"/> Feedback on assignments <input type="checkbox"/> Online community										
Interaction with peers <input type="checkbox"/> Online discussion using forum/ email/ icq/ chatroom/ video conference, etc. <input type="checkbox"/> Others... <input type="checkbox"/> Web-based group projects <input type="checkbox"/> Online community										

Table 2: eLearning Design Decision Matrix

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ⁱ e3Learning is a Hong Kong government funded "Teaching Development Grant"(TDG) project. It operates across three universities, the Hong Kong Polytechnic University (PolyU), the City University of Hong Kong (CityU) and The Chinese University of Hong Kong (CUHK). The project has been involved in the building of over 130 websites in the twenty-six-month period from October 2002 to December 2004. Details of the project can be found at <http://e3learning.edc.polyu.edu.hk> .