

Using Internet Technology in Teaching & Learning

The following table outlines possible uses of technologies and how they can facilitate good teaching. It relate technology use to the *Seven Principles of Good Practice*, and a subsequent article, *Implementing the Seven Principles: Technology as Lever* (Chickering, A. W., Ehrmann, S. 1997) <http://www.tltgroup.org/programs/seven.html>

If using this table, consider that the *level* of learning objectives can have a greater bearing on the instructional value of the activity than the complexity of the technology [i.e. a “low-tech” solution used wisely may be more successful in promoting higher learning than a high-tech solution used gratuitously). Also consider both the primary and secondary learning effects of a medium; for example, conferencing may be used to enable discussion outside the classroom, but the secondary effect may be that it improves writing skills because of the time students spend reflecting on their responses.

Medium	Classes of Activities Possible	Examples	Needs/Benefits*	7 Principles of Good Practice
E-mail	a) Information Dissemination	<ul style="list-style-type: none"> E-mail announcements Listserv discussion 	<ul style="list-style-type: none"> Able to distribute information quickly Reach people outside of class 	<ol style="list-style-type: none"> 1. Encourage contact between students and faculty 2. Develop reciprocity and collaboration among students 4. Provide prompt feedback
Web Pages (non-interactive)	a) Information Dissemination	<ul style="list-style-type: none"> administrative [e.g. outlines, schedules, notices] 	<ul style="list-style-type: none"> save paper, administrative duties updatability 	<ol style="list-style-type: none"> 1. Increase contact
	b) Providing Resources	<ul style="list-style-type: none"> pointers to web resources course notes [text, figures, images] online text [e.g. course manual], cases or exercises hypertext slide show/lectures extra/review exercises readings homework/test solutions model completed assignments tutorials [basic] documentation 	<ul style="list-style-type: none"> save paper, administrative duties convenience [prof/learner] updatability campus-wide access easily provide extra learning resources accommodate varying learner styles/levels distribute colour material increase learner success 	<ol style="list-style-type: none"> 6. Communicate high expectations <ul style="list-style-type: none"> - high quality materials set the standard - provide rich context and resources for assignments 7. Accommodate various learning styles <ul style="list-style-type: none"> - multi-sensory stimuli - different types of assignments
	c) Publishing	<ul style="list-style-type: none"> display student work develop assessment portfolio 	<ul style="list-style-type: none"> give students a publishing medium 	<ol style="list-style-type: none"> 3. Active Learning: creation, design 4. Feedback (on published work) 5. High expectations (publication increases quality)

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Computer Based Conferencing	a) Facilitating Communication [focus on immediate communication instrumental to other goals]	<ul style="list-style-type: none"> • discussion: questions or issues around content • posting reflections, critique • problem or case based learning • scientific inquiry: presenting research • notices • online help/support group • study groups • seminars • small group project planning, document sharing, collaborative writing • guest lecturers • mentors • teacher/peer review and feedback • debate • support for coop students 	<ul style="list-style-type: none"> • ability to extend discussion outside of contact hours • reduce/eliminate meeting times/ commute time • include more reflective learning activities • give shy students an opportunity to participate • avoid sm. group meeting time problems • introduce experts beyond the classroom • monitor progress/process of group work • increase contact with students • scaffold student development w/ communication, assistance 	2. Develop reciprocity and collaboration: study groups, problem-solving 3. Promote Active Learning: discussion, debate, problem-solving. 5. Emphasize time on task: make learning as accessible and flexible as possible. 7. Accommodate various learning styles
	b) Knowledge Building [focus on the artifact - dialog which is stored and is examinable]	<ul style="list-style-type: none"> • FAQ evolving out of inquiry • development history of project • writing and other iterative processes [e.g. design] • evolution of discussion, consensus on issue 	<ul style="list-style-type: none"> • create a community of learners • evaluate process as well as product • create a database for future classes 	

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Interactive Web sites & Multimedia	Course "Content"	a) Presentation	<ul style="list-style-type: none"> enhanced slide show [animation, audio, video, vrmf to present content] online manuals/ course guides 	<ul style="list-style-type: none"> present complex information in multisensory presentation to increase understanding and retention 	<p>3. Promote Active Learning: apprenticeship model, simulations, design experiences; authentic, situated learning situations; problem or case-based learning.</p> <p>7. Accommodate different learning styles; use different methods of evaluation</p>
		b) Hypermedia Database/ Case studies	<ul style="list-style-type: none"> collection of multimedia information/case studies contains questions/responses 	<ul style="list-style-type: none"> students can ask get answers to common questions on demand 	
		c) Simulation	<ul style="list-style-type: none"> simulating biological, physical, or mechanical systems/environments which respond to user input 	<ul style="list-style-type: none"> make complex, dangerous, inaccessible systems available for all to try 	
		d) Interactive Testing/Tutorial	<ul style="list-style-type: none"> drill and practice test which provides hints, tracks user success; adjustable difficulty 	<ul style="list-style-type: none"> learning help in basic concepts, such as identification; sometimes tedious for instructor 	
		e) Intelligent Tutor	<ul style="list-style-type: none"> task or process-centred activity, such as performing a skill; using a piece of equipment properly 	<ul style="list-style-type: none"> students able to perform task with "one-on-one" teaching for optimal learning-by-doing 	
		f) Goal-based scenario/ guided simulation	<ul style="list-style-type: none"> user enters a simulation environment motivated by a goal; e.g. Run a restaurant kitchen successfully keeping patrons, staff, and owners content while dealing with various problems which arise 	<ul style="list-style-type: none"> software which directly maps desired learning outcomes has high rate of transfer to real world task able to assess how learners perform in complex situations 	
	Course Functions	g) Document Sharing	<ul style="list-style-type: none"> students are able to collaboratively author documents, exchanging and tracking versions, editing, and authoring 	<ul style="list-style-type: none"> enable collaborative work prepare students for team-based work environments 	<p>3. Active Learning</p> <p>4. Provide prompt feedback</p>
		h) Uploading/ Downloading	<ul style="list-style-type: none"> students are able to submit assignments to instructor securely; instructors are able to annotate and return documents 	<ul style="list-style-type: none"> prof has secure way of receiving/distributing assignments access, convenience, for students 	
		i) Marks	<ul style="list-style-type: none"> students are able to view marks online securely; view comparative/summative reports; instructors are able to insert and manage student grades 	<ul style="list-style-type: none"> access, convenience 	