

Universal Instructional Design and Learning Disabled (LD) Students -- On-Line Course Materials

1. The following table attempts to align (1) teaching strategies for LD students, (2) UID Principles and (3) examples of specific steps suitable for E-Learning. Please see sections 2 and 3 for a listing of these teaching strategies and the UID principles.

Instructional goal per report to LOTF	In keeping with the following UID Principle(s)	Points to consider when instructing on-line (hybrid or distance-based)
<p>well-written course syllabus available well in advance of first class</p>	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ The syllabus should be available in hard copy with the CoursePak and also distributed through the course website. ▪ The website should be available to students before class begins, and students need to know how to access it. ▪ The syllabus should be prepared in multiple electronic formats (HTML, pdf and rtf), and the purpose of each format should be provided. ▪ Operational details (time, location, etc.), learning outcomes, basis for assessment and means of addressing individual concerns should be included in the syllabus. ▪ Check to see that the information in the syllabus connect major topics and subtopics with assignments, resources, prior learning and future application. ▪ The on-line syllabus needs to be kept up-to-date so that it always reflects what is happening in the course. ▪ Ideally there will be co-ordination among all professors and TAs in your course.

Instructional goal per report to LOTF	In keeping with the following UID Principle(s)	Points to consider when instructing on-line (hybrid or distance-based)
positive first class meeting	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ Test, re-test, then test again everything on the coursesite before the semester begins. ▪ You can set a welcoming, supportive, inclusive atmosphere on-line via cues such as <ul style="list-style-type: none"> * colours * fonts * conversational style * topics included * selected hyperlinks ▪ If you are new to on-line teaching, tell your students so that you can adjust together to this still relatively new environment. ▪ Ask students through an electronic forum how they like to study on-line materials. ▪ Orientation to the course website could be part of the first face-to-face class meeting, perhaps as a PPT presentation. ▪ Incorporate strategies for teaching large classes.

Instructional goal per report to LOTF	In keeping with the following UID Principle(s)	Points to consider when instructing on-line (hybrid or distance-based)
clear introduction to course concepts	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ Determine the essential requirements for the course and give these greater emphasis. ▪ Review every item and navigation on the website for accessibility and clarity, re-writing or re-designing as necessary. ▪ Ensure there is careful labeling and organization of all items. ▪ Offer multiple approaches to learning and demonstrating mastery of course concepts. ▪ The course website as well as in in-class materials and activities can include definitions, examples, problems and feedback. ▪ Use graphics and videos to more fully explore key course concepts. ▪ Clarity is supported by consistency (formatting, icons, labeling). ▪ PPT slides and other visuals accompanying lectures can be added to the course website. ▪ Ensure that course notes introduce technical terms, free of jargon. ▪ A "welcome page" (outside of password protected area) might include such handy resources as a searchable glossary and an abridged syllabus. ▪ Confirm that course concepts introduced through the course website are incorporated into face-to-face lectures, and vice versa.

Instructional goal per report to LOTF	In keeping with the following UID Principle(s)	Points to consider when instructing on-line (hybrid or distance-based)
being organized and emphasizing key points	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ All materials should be carefully storyboarded and timed with the syllabus as a guide. ▪ All electronic materials should be properly structured, which will include such steps as: <ul style="list-style-type: none"> * consistent styles in Word, to produce useful bookmarks in pdf format. * following a style guide with carefully considered advance organizers and visual cues. * submenus at the top of each page for easy movement through long passages. ▪ Consider an abridged set of notes for distribution to students in hard copy. ▪ In-class materials that are included within the course site (such as PPT slides) should be checked for advanced organizers, clear fonts and reduction of visual clutter. ▪ Guidelines (templates, for example) for instructor and student materials may need to differ.
using a variety of learning and teaching approaches	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ Use concepts such as "learning styles" or "multiple intelligences" to inspire new ideas for your on-line students. ▪ Seek ways to incorporate approaches such as team/group work, practicum, hands-on experiences, role-playing and simulations in addition to the more common lectures, seminars, labs and tutorials. ▪ Emphasize the options that you have included in your course. ▪ Integrate all approaches into one cohesive experience. ▪ Ask students for their ideas.

Instructional goal per report to LOTF	In keeping with the following UID Principle(s)	Points to consider when instructing on-line (hybrid or distance-based)
being aware of student needs and supporting areas of difficulty	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ Use open-ended questions in discussion forums to encourage students to share their individual ideas and needs. ▪ Provide an email address by which students can contact you directly. ▪ Overtly offer individual assistance via your printed CoursePak and on-line syllabus. ▪ Consider expanding the use of electronic conferencing, including an unstructured, unmoderated open forum. ▪ If your course lends itself to real-time events (such as a virtual guest speaker), provide a way for all students to participate regardless of the accuracy or speed of their keyboarding. ▪ If you do host real-time events, provide transcripts for students who may miss the event. ▪ Emphasize to students that it is "safe" to experiment, to try and to make adjustments, as this is part of the creative process. ▪ Offer multiple means for communicating with you, the TA and others involved in the course. ▪ Ask students if you can watch them use your course site, noting areas where they seem to be having difficulty. ▪ Assume that at most 1/4 of your students will make known their individual needs.

Instructional goal per report to LOTF	In keeping with the following UID Principle(s)	Points to consider when instructing on-line (hybrid or distance-based)
multiple tests or assignments (rather than one or two major ones)	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ Examine the weighting of all assignments and consider them from the standpoint of your students. ▪ Consider learning contracts by which students decide the weighting of assessment methods toward their final grade. (You set the allowable range per method.)
variety in assessment methods (projects, essays, exams, presentations, interviews, class participation)	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ Actively seek ways to include activities such as problem-based learning, portfolios of student work, essays, multi-media presentations, group presentations, Web Quests and quescussions. ▪ If your course content does not lend itself well to presentation and assessment by electronic means then consider electronic journaling or increased use of conferencing. ▪ Consider learning contracts by which students decide the weighting of assessment methods toward their final grade. (You set the allowable range per method.)

Instructional goal per report to LOTF	In keeping with the following UID Principle(s)	Points to consider when instructing on-line (hybrid or distance-based)
clear questions	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ Consider inviting former students to participate in focus groups specifically to review your question bank. ▪ Ask other professors to review your questions and quizzes. ▪ Feedback can include hyperlinks for further study ▪ Align on-line practice exams with questions asked in class or introduced through electronic conferencing.
practice exam questions	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ Incorporate practice exams and sample questions into self-directed learning activities on-line. ▪ Confirm that question content and format is consistent with the manner in which students will be tested for grades. ▪ Offer variations on questions to discourage rote-memorization. ▪ Provide practice items that are complementary to face-to-face activities such as hands-on labs. ▪ Offer non-graded versions of graded on-line materials. ▪ Consider offering a randomization option for on-line questions. ▪ Ensure that practice exams are aligned with learning outcomes and core course requirements. ▪ Consider having students write questions and exams as a graded activity.

Instructional goal per report to LOTF	In keeping with the following UID Principle(s)	Points to consider when instructing on-line (hybrid or distance-based)
detailed and timely feedback	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ Include in the syllabus the dates by which every graded component of the course will be marked. ▪ Plan your own schedule so that you have enough time to mark all assignments, including feedback that goes beyond right/wrong scoring where applicable. ▪ Post grades on-line in a manner that protects the identity of the student and that helps them to understand how the grade was calculated. ▪ Consider using peer grading, with rubrics provided by you. ▪ Ensure that all computer-generated feedback is constructive and instructive. ▪ Provide at least once per semester a self-evaluation activity with the aim of motivating students to take advantage of all study tools available through your course or the university at-large.
clear and appropriate timelines	<ul style="list-style-type: none"> ▪ Accessible and fair ▪ Straightforward and consistent ▪ Flexible ▪ Explicitly presented and readily perceived ▪ Supportive ▪ Minimize effort ▪ Learning space 	<ul style="list-style-type: none"> ▪ Consider the timelines from multiple perspectives, i.e. yourself as instructor, students, TAs, seminar or lab leaders, et al. ▪ Consult with instructors of other courses your students are likely to take concurrently and endeavour to co-ordinate timelines across the curriculum. ▪ Be sure that all time-bound expectations are clearly described in the syllabus.

2. Recommended Strategies for Teaching Learning Disabled (LD) Students

The following list of "teaching strategies" has provided a framework as well as a checklist in working with courses and professors in the Universal Instructional Design (UID) project at the University of Guelph. It was built on research reported through "Handbook for Faculty on Learning Disability Issues" prepared by Teaching Support Services and the Learning Opportunities Program at the University of Guelph through funding provided by the Learning Opportunities Task Force (LOTF) of the Ontario Ministry of Training, Colleges and Universities.

- well-written course syllabus available well in advance of the first class
- positive first class meeting
- clear introduction to course concepts
- being organized and emphasizing key points
- using a variety of learning and teaching approaches
- being aware of student needs and supporting areas of difficulty
- multiple tests or assignments (rather than one or two major ones)
- variety in assessment methods (projects, essays, exams, presentations, interviews, class participation)
- clear questions
- practice exam questions
- detailed and timely feedback
- clear and appropriate timelines

3. UID Principles as Articulated at the University of Guelph

Instructional materials and activities should ...

- be accessible and fair.
- be straightforward and consistent.
- provide flexibility in use, participation and presentation.
- be explicitly presented and readily perceived.
- provide a supportive learning environment.
- minimize unnecessary physical effort or requirements.
- ensure a learning space that accommodates both students and instructional methods.