

## **Tips for Using UD And ICTs to Create Inclusive Learning<sup>1</sup>**

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Adopting universal design (UD) when selecting and using ICTs can assure an engaging and

## Course Materials

*Digital textbooks.* While digital textbooks seem to promote accessibility in general, many academic book publishers use their own proprietary formats. This can be confusing and may restrict accessibility for certain students. Offering a choice of hardcopy textbook or the equivalent digital format provides for more inclusion.

*PDF files.* In certain cases, instructors have posted PDF files of multi-

**Course participation.** For students who do not like or are unable to participate in traditional class discussions, course participation can be evaluated by assessing students' engagement through discussion forums or participation in class activities.

**Online testing/examinations.** Providing the option of completing testing online inside Moodle may be beneficial for students who are disadvantaged by paper format testing. But some aspects of online testing create barriers including: the necessity for correct spelling for fill-in-the-blank answers to be recognized as correct, errors in submission of responses which result in incomplete tests, software/hardware malfunctions, and incompatibility with screen readers and other assistive technology.

## CONCLUSION

Considering the principles of universal design when selecting and using ICTs can ensure an engaging, accessible and inclusive learning experience for the diversity of students in today's classrooms.

Learn more about the Adaptech Research Network and our work at [www.adaptech.org](http://www.adaptech.org).

## REFERENCES

- Fichten, C. S., Ferraro, V., Asuncion, J. V., Chwojka, C., Barile, M., Nguyen, M. N., ...  
Wolforth, J. (2009). Disabilities and e-learning problems and solutions: An exploratory study. *Educational Technology and Society*, 12(4), 241–256.
- Leadbeater, W., Shuttleworth, T., Couperthwaite, J., & Nightingale, K. P. (2013). Evaluating the use and impact of lecture recording in undergraduates: Evidence for distinct approaches by different groups of students. *Computers & Education*, 61, 185–192.  
doi:10.1016/j.compedu.2012.09.011
- Lepi, K. (2012). *11 real ways technology is affecting education right now*. Retrieved from <http://www.edudemic.com/new-study-finds-11-real-ways-technology-is-affecting-education-right-now/>
- Livescribe, Inc. (2014). Livescribe Smartpens [Computer hardware]. Available from <http://www.livescribe.com/en-ca/>
- McGuire, J. M. (2011). Inclusive college teaching: Universal design for instruction and diverse learners. *Journal of Accessibility and Design for All*, 1(1), 38–54.
- Rangin, H. (2013, March). *A comparison of learning management system accessibility*. Paper presented at the 28th Annual International Technology and Persons with Disabilities Conference, San Diego, CA.
- Rose, D. H., & Meyer, A. (2002). *Teaching every student in the digital Age: Universal design for learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Scott, S. S., Loewen, G., Funckes, C., & Kroeger, S. (2003). *Implementing universal design in higher education: Movin*

UDL Universe  
UDL OnCampus

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