

**THE EDUCATION UNIVERSITY OF HONG KONG**

**Course Outline**

**Part I**

<b>Programme Title</b>	:	Doctor of Education (EdD)
<b>Course Title</b>	:	Directed study - ICT1: Critical Literature Review on ICT in Education
<b>Course Code</b>	:	INT7010
<b>Department</b>	:	Mathematics and Information Technology
<b>Credit Points</b>	:	3
<b>Course Hours</b>	:	39 hours
<b>Pre-requisite(s)</b>	:	Nil
<b>Medium of Instruction</b>	:	English
<b>Level</b>	:	

**Part II**

**1. Synopsis**

The course aims to equip candidates with a holistic understanding of the development of ICT in education through an extensive review of classic and modern literature related to the field of ICT in education. Candidates will be led to develop insights into the development trend, core substance and promising research in the field of ICT in education.

**2. Course Intended Learning Outcomes (CILOs)**

*Upon completion of this course, students will be able to:*

- CILO<sub>1</sub> identify the fundamental characteristics and changing paradigm of ICT in education;
- CILO<sub>2</sub> understand the past development, status quo and future direction of ICT in education;
- CILO<sub>3</sub> develop insights into the research on ICT in education.

### 3. Content, CILOs and Teaching & Learning Activities

Course Content	CILOs	Suggested Teaching & Learning Activities
The fundamental characteristics of ICT in education	<i>CILO<sub>1</sub></i>	Lecture, Lecturer-led Q&A, Guided Research Activities
The development trend and paradigm shift of instructional design	<i>CILO<sub>1,2</sub></i>	Lecture, Lecturer-led Q&A
The development trend and paradigm shift in ICT in education, such as the shift from the technology-centered design for knowledge transmission to the practice-centered design for knowledge construction	<i>CILO<sub>1,2</sub></i>	Lecture, Lecturer-led Q&A, Guided Research Activities
The possible research direction in the field of ICT in education	<i>CILO<sub>3</sub></i>	Guided Research Activities

### 4. Assessment

Assessment Tasks	Weighting (%)	CILO
Based on a critical review on a number of academic publications, candidates write a reflective writing on the development of ICT in education. (4000-5000 words)	100	<i>CILO<sub>1,2,3</sub></i>

### 5. Required Text(s)

Nil

### 6. Recommended Readings

- Azevedo, R. (2005). Computer environments as metacognitive tools for enhancing learning. *Educational Psychologist*, 40(4), 193-197.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32-42.
- Chen, N. S., Ko, H. C., & Kinshuk, Lin, T. Y. (2005). A model for synchronous learning using the Internet. *Innovations in Education and Teaching International*, 42(2), 181-194.
- Churchill, D. (2009). Educational applications of Web 2.0: using blogs to support

- teaching and learning. *British Journal of Educational Technology*, 40(1), 179-183.
- Cognition & Technology Group at Vanderbilt. (1991). Technology and the design of generative learning environments. *Educational Technology*, 31(5), 34-40.
- Collins, A., Brown, J. S., & Newman, S. E. (1989). Cognitive apprenticeship: teaching the crafts of reading, writing, and mathematics. In L. B. Resnick (Ed.), *Knowing, learning, and instruction: essays in honor of Robert Glaser* (pp. 453-494). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Conlon, T., & Pain, H. (1996). Persistent collaboration: a methodology for applied AIED. *International Journal of Artificial Intelligence in Education*, 7(3/4), 219-252.
- Duffy, T. M., & Jonassen, D. H. (1991). Constructivism: new implications for Instructional technology. *Educational Technology*, 31(5), 7-12.
- Fischer, G, & Konomi, S. (2007). Innovative socio-technical environments in support of distributed intelligence and lifelong learning. *Journal of Computer Assisted Learning*, 23(4), 338-350.
- Garrison, D. R., & Arbaugh, J. B. (2007). Researching the community of inquiry framework: review, issues, and future directions. *The Internet and Higher Education*, 10(3), 157-172.
- Hawkins, J., & Collins, A. (1992). Design-experiments for infusing technology into learning. *Educational Technology*, 32(9), 63-67.
- Huang, Y. M., Kuo, Y. H., Lin, Y. T., & Cheng, S. C. (2008). Toward interactive mobile synchronous learning environment with context-awareness service. *Computers and Education*, 51(3), 1205-1226.
- Jonassen, D. H. (2006). A constructivist's perspective on functional contextualism. *Educational Technology Research and Development*, 54(1), 43-47.
- Jonassen, D. H., & Land, S. M. (Eds.). (2000). *Theoretical foundations of learning environments*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Jonassen, D. H., Peck, K. L., & Wilson, B. G (1999). *Learning with technology: a constructivist perspective*. Upper Saddle River, NJ: Merrill.
- Kanuka, H., Rourke, L., & Laflamme, E. (2007). The influence of instructional methods on the quality of online discussion. *British Journal of Educational Technology*, 38(2), 260-271.
- Lajoie, S. P. (Ed.) (2000). *Computers as cognitive tools: no more walls* (Vol. 2). Mahwah, NJ: Lawrence Erlbaum Associates.
- Levin, J., & Waugh, M. (1987). Educational simulation tools, games, and microworlds: computer-based environments for learning. *International Journal of Educational Research*, 12(1), 71-79.
- Love, K., & Simpson, A. (2005). Online discussion in schools: towards a

- pedagogical framework. *International Journal of Educational Research*, 43(7/8), 446-463.
- Machi, L. A., & McEvoy, B. T. (2009). *Literature review: six steps to success*. Thousand Oaks, CA: Corwin Sage.
- Magoulas, G D., Papanikolaou, Y., & Grigoriadou, M. (2003). Adaptive web-based learning: accommodating individual differences through system's adaptation. *British Journal of Educational Technology*, 34(4), 511-527.
- Marchionini, G (1988). Hypermedia and learning: freedom and chaos. *Educational Technology*, 28(1), 8-12.
- Marchionini, G (1989). Information-seeking strategies of novices using a full-text electronic encyclopedia. *Journal of the American Society for Information Science*, 40(1), 54-66.
- Mayer, R. E. (1999). Instructional technology. In F. T. Durso, R. S. Nickerson, R. W. Schvaneveldt, S. T. Dumais, D. S. Lindsay & M. T. H. Chi (Eds.), *Handbook of applied cognition*, (pp. 551-569). John Wiley & Sons Ltd.
- Motiwalla, L. F. (2007). Mobile learning: a framework and evaluation. *Computers and Education*, 49(3), 581-596.
- Palincsar, A., & Brown, A. (1984). Reciprocal teaching of comprehension-fostering and monitoring activities. *Cognition and Instruction*, 1(2), 117-175.
- Papert, S. (1980). *Mindstorms: children, computers and powerful ideas*. Sussex, UK: Harvester Press.
- Pea, R. D. (1985). Beyond amplification: using the computer to reorganize mental functioning. *Educational Psychologist*, 20(4), 167-182.
- Reigeluth, C. M. (Ed.). (1999). *Instructional-design theories and models: a new paradigm of instructional theory (volume II)*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Richardson, W. (2009). *Blogs, wikis, podcasts, and other powerful web tools for classrooms*. Thousand Oaks, CA: Corwin Press.
- Scardamalia, M., Bereiter, C., McLean, R., Swallow, J., & Woodruff, E. (1989). Computer supported intentional learning environments. *Journal of Educational Computing Research*, 5(1), 51-68.
- Schiaffino, S., Garcia, P., & Amandi, A. (2008). eTeacher: providing personalized assistance to e-learning students. *Computers and Education*, 51(4), 1744-1754.
- Self, J. A. (1985). A perspective on intelligent computer-assisted learning. *Journal of Computer Assisted Learning*, 1(3), 159-166.
- Sharples, M., Taylor, J., & Vavoula, G N. (2007). A theory of learning for the mobile age. In R. Andrews & C. Haythornthwaite (eds.), *The SAGE handbook of e-learning*

- research* (pp.221-247). London: SAGE.
- Solomon, G, & Schrum, L. (2007). *Web 2.0: new tools, new schools*. Eugene, OR: International Society for Technology in Education.
- Stahl, G (2006). *Group cognition: computer support for building collaborative knowledge*. Cambridge, MA: The MIT Press.
- Stahl, G, Koschmann, T., & Suthers, D. (2006). Computer-supported collaborative learning: an historical perspective. In R. K. Sawyer (Ed.), *Cambridge handbook of the learning sciences* (pp. 409-426). Cambridge, UK: Cambridge University Press.
- Tsai, C. C. (2004). Beyond cognitive and metacognitive tools: the use of the Internet as an “epistemological” tool for instruction. *British Journal of Educational Technology*, 35(5), 525-536.
- Tseng, J. C. R., Chu, H. C., Hwang, G J., & Tsai, C. C. (2008). Development of an adaptive learning system with two sources of personalization information. *Computers and Education*, 51(2), 776-786.
- Wu, Y.-T., & Tsai, C.-C. (2005). Information commitments: evaluative standards and information searching strategies in web-based learning environments. *Journal of Computer Assisted Learning*, 21(5), 374-385.
- Xu, D.-M., Wang, H.-Q., & Wang, M.-H. (2005). A conceptual model of personalized virtual learning environments. *Expert Systems with Applications*, 29(3), 525-534.

## 7. Related Web Resources

Nil

## 8. Related Journals

*Artificial Intelligence in Education*  
*British Journal of Educational Technology*  
*Computers and Education*  
*Educational Technology and Society*  
*Educational Technology Research and Development*  
*Innovations in Education and Teaching*  
*International Interactive Learning Environments*  
*Journal of Computer Assisted Learning*  
*Language Learning and Technology*

Selected articles from international refereed journals will be recommended during the course delivery.

## **9. Academic Honesty**

The University adopts a zero tolerance policy to plagiarism. For the University's policy on plagiarism, please refer to the *Policy on Academic Honesty, Responsibility and Integrity with Specific Reference to the Avoidance of Plagiarism by Students* (<https://www.eduhk.hk/re/modules/downloads/visit.php?cid=9&lid=89>). Students should familiarize themselves with the Policy.

## **10. Others**

Nil

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