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**Cognition and Technology EDCI 571**

**Masters of Arts in Curriculum and Instructional Leadership  
Emphasis Area: Learning Technologies**

**University of Missouri-Kansas City  
School of Education  
Curriculum and Instructional Leadership**

Reference Number	12632
Department	EDCI INT NXA
Course Number	589CT- 571
Title	Special Topics in Education
Instructor Name	Donna Russell
Start	4:30 June 10
End	4:30 July 29
Building	Northland Campus
Room Number	Room 105
Days	Thursday
Comment	This internet course meets twice-- June 10 and July 29 at Northland Campus.

**Syllabus**

**Schedule**

Summer Session  
June 8- July 30, 2004  
Online Course  
Northland Campus

**Instructor**

Donna Russell, Ph.D.

**Office**

309 School of Education  
(816) 235 -5871

314.210.6996

**Office Hours**  
by appointment

**Text**

A review of literature on current research in cognition and technology.  
Required:

Cognitive Theory:

Bereiter, C. (2001). *Education and Mind in the Knowledge Age*. Lawrence Erlbaum Assoc.

Preface to the book: <http://www.observatory.com/carlbereiter/preface.pdf>

Chapter 1: <http://www.observatory.com/carlbereiter/chapter1.pdf>

Chapter 2: <http://www.observatory.com/carlbereiter/chapter2.pdf>

Educational Settings and Cognition:

Chapter 6: <http://www.observatory.com/carlbereiter/chapter6.pdf>

Chapter 12: <http://www.observatory.com/carlbereiter/chapter12.pdf>

Bereiter, C., & Scardamalia, M. (2001). *Beyond Bloom's taxonomy: Developing higher-level approaches to knowledge*. <http://unr.edu/homepage/luvisis/bereiter.html>.

Cognition and Technology:

Jonassen, D., Peck, K., & Wilson, B. (1999). *Learning with technology: A constructivist perspective*. Prentice Hall Publishing. Upper Saddle River, N.J.

[http://www.amazon.com/exec/obidos/tg/detail/-/013271891X/qid=1086550862/sr=1-4/ref=sr\\_1\\_4/104-6808481-6857546?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/013271891X/qid=1086550862/sr=1-4/ref=sr_1_4/104-6808481-6857546?v=glance&s=books)

Jonassen, D. H., (2001) *Technology as cognitive tools: Learners as designers*.  
<http://itech1.coe.uga.edu/itforum/paper1/paper1.html>

Roschelle, J. M., Pea, R. D., Hoadley, C. M., Gordin, D. N., & Means, B. M. (2000). *Changing how and what children learn in school with computer-based technologies*.  
[http://www.futureofchildren.org/information2826/information\\_show.htm?doc\\_id=69809](http://www.futureofchildren.org/information2826/information_show.htm?doc_id=69809)

Suggested supplemental Readings related to the core course concepts:

Cognitive theory:

Bruner: Acts of Meaning

Wertsch: The Mind as Action and Voices of the Mind

Vygotsky: Thought and Language

Education and Cognition

Dewey: How We Think

Salomon: Distributed Cognitions

Lave and Wenger: Situated Learning

Rogoff and Lave: Everyday Cognition

Learning Technologies and Cognition

Polman: Project-Based Science

## **Course Description**

The purpose of this course is to respond to current research in cognition and technology and design an evaluative response to a technology program in education. The course is designed to expose educators to new research in the field of cognition and technology including new theories in cognitive research, new concepts of cognition in educational settings and new studies of technology in educational settings. Using Bereiter's concepts of knowledge as a functional conceptual artifact, Jonnassen's writings on problem-based learning using technology and Pea and Roschelle's writing on the potential of emerging technologies, educators in this course will understand and evaluate current cognitive concepts and potential functions of new technologies in developing learning in educational settings.

## **Intended Learning Outcomes**

This course is part of a program to develop educators with the capability to design, develop, implement and evaluate learning technologies into a variety of learning environments. The program is designed to enable educators to be proactive, reflective, and collaborative professionals capable of developing innovative learning environments utilizing emerging technologies.

Educators in this course will discuss and review 3 major studies in the field. Students will write an evaluation of a journal article chosen from a list of cog and tech topics published in refereed journals. Finally students will respond to a technology program and write an evaluation of the program effectiveness.

In this course the learners will:

1. Identify the potential of learning technologies to develop advanced cognitive abilities in students
2. Analyze current research in the field of cognition and technology,
3. Evaluate the potential of a technology program to develop advanced learning capabilities in the students
4. Critique a current technology-based learning program.

## **Learner Activities**

Using online forums the students will discuss new research in the correlating fields of cognition and technology. Students will respond to Bereiter's book, Jonnassen's book and an article on Mind Tools and problem-based learning and Pea and Roschelle's article on the potential usage of emerging technologies in educational settings.

Students will identify a topic of study, review articles on the topic and write an evaluation paper on the potential of the technology program to advance learning processes in the learner. Students will also be given a choice of scenarios of technology-based programs to critique and evaluate

referring to the resources studies throughout the course in order to justify their response.

### **Assessment**

All the projects created for this course will be scored using scaled rubrics.

1. Discussion Board Responses: 10%  
Students will respond to discussion board threads that review the major concepts of the readings.
2. Write summary responses to the readings : 75%  
The student will write a summary paper for each of the readings- total 3 papers. Each paper will be from 3-5 pages. The papers will be assessed based on the students' ability to define the major points in an article and respond critically.
3. Evaluation article: 15%  
The students will develop a topic of inquiry in the field of cognition and technology and write a position paper summarizing the potential for the topic of inquiry to develop the intended educational goals.  
Or :
4. Discussion Board Scenario:  
The students will respond to an online scenario by describing the goals of the program discussed and then evaluating the processes described, i.e. Instructional processes, assessment processes etc., citing the articles studied in the literature reviews.

### **Computer Mediated Learning**

This course can be modified to be taught totally online. This course uses technology as a way to develop individual understanding through projects that are responses to course readings and dialogs including the online exchanges among all the learners participating in the course. The course design includes collaborative dialogic processes, class discussions and online dialogs, and individual essays that build reflective professional responses to the topics.

### **Online course information**

Blackboard

In order to be successful in this online course the students will need access to the internet using IE or Netscape. The blackboard site is located at [www.blackboard.umkc.edu](http://www.blackboard.umkc.edu). The students will also need to use your [UMKC username and password](#) when accessing Blackboard. For assistance with Blackboard, please contact them online at [UMKC Information Services Call Center](#) at 816-235-2000 or e-mail at [CallCenter@umkc.edu](mailto:CallCenter@umkc.edu).

It is important in the online environment that the students stay with the schedule so the course schedule will allow for timed responses such as downloading and uploading only during the time the topic/readings are current. It is also important that the students stay in touch with the instructor if there are any technology related issues or any other issues that arise during the course.

The students can also benefit from having Adobe Reader on their home computer and can download from this address, <http://www.adobe.com/products/acrobat/readstep2.html>, if it is not loaded into their computer. Students in this course should allow themselves ample time to on the computer to respond to the discussion board postings, download the assigned readings and upload their completed work.

### **UMKC Disability, Academic Honesty, & English Proficiency Policies**

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### **SOE Mission Statement**

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working collaboratively, democracy and social justice and creating caring and safe environments. This course will lend itself to the development of academic excellence, inquiry and reflective problem solving and the creation of caring and safe environments.

Date	Format	Topic	Reading	
June				
10	in class	Introductions of students. Overview Course Goals. Review the course syllabus and the assignments	<i>Bereiter, C. (2001). Education and Mind in the Knowledge Age .Lawrence Erlbaum Assoc. Preface and chapter 1</i>	Reac chap
15	online	Topics: Cognitive folk theories The students will discuss the first chapters of the Bereiter book. Students will be asked to identify the historical analysis of cognition and the principles of folk psychology of learning.	Bereiter book- chapter 2 and 6- developing functional knowledge artifacts	Rea Resp Thec Due
17	online	Topics: Principles of assessment of cognitive processes using Bereiter's Scheme of Knowledge. Discussion board responses to Bereiter principles of learning- and knowledge formation. Introduce the Scheme of Knowledge and assessment design	Online: review Bereiter book- chapter 12 and article on Bloom- assessment of knowledge Bereiter, C., & Scardamalia, M. (2001). <i>Beyond Bloom's taxonomy: Developing higher-level approaches to knowledge.</i>	Reac on B Resp Thec Self- Due
22	online	Topics: Constructivist-Based learning principles and technology integration Introduce Jonassen book reviewing use of technology in the development of constructivist-based learning environments.	Jonassen, D., Peck, K., & Wilson, B. <i>Learning with technology: A constructivist perspective.</i> (1999). Prentice Hall Publishing. Upper Saddle River, N.J.	Rea
24	online	Topics: CBL and technology Review chapters 1-3 in the Jonassen book - Mindtools for learners. Discussion: Assignment: response paper to Jonassen article	Jonnassen, D. H., <i>Technology as cognitive tools: Learners as designers.</i>	Assi
29	online	Topics: Problem Based Learning and technology Discussion: Review chapters 4-6 in Jonassen book. Review tech programs discussed in the book		Resp Resp Self-
July				
1	online	Topic: Effectiveness of technology integrated into problem-based units. (PBL) Discussion: Review article by		

		Jonassen and the evaluation of technology programs described in the book		
6	online	Topic: PBL and learning tools-potential for learning using technology Discussion: Review Jonassen article and identify potential topics for final project. Introduce article by Roschelle. Assignment :response paper for Roschelle and Pea article	Roschelle, J. M., Pea, R. D., Hoadley, C. M., Gordin, D. N., & Means, B. M. (2000). <i>Changing how and what children learn in school with computer-based technologies.</i>	Reac
8	online	Topics: Potential use of learning technologies in educational settings Review Roschelle article Assignment: Identification of educational technology program for evaluation.		Resp due Self-
13	online	Topics: Evaluation of potential learning technologies in education Discussion: topics of potential programs for technology integration in education-resources Evaluation paper guidelines reviewed		Topi
15	online	Topics: Assessment of research evaluation paper Discussion: review research evaluation process: Assignment: identify topics of research papers		Rosc
20	online	Topics: organization of research evaluation paper Discussion: Review topics for evaluation paper		Top
22	online	Topics: Discussion of evaluation process in educational technology programs	Post scenarios for alternative to the final paper.	
27	online	Topics: Review of evaluation paper topics and assessment	Scenarios posted online	Scen
29	In-class	Topics: Review and self-evaluation of evaluation papers. topic: students discuss the potential of the technology programs evaluated in their papers		Eval Self- Pres

## Cognition and Technology

Curriculum and Instructional Leadership  
School of Education  
University of Missouri-Kansas City

Instructor: Donna Russell, Ph.D.

## **Response Papers**

### **Description of the Assignment:**

During this course you will write 3 response papers of current concepts in the field of cognition and/or technology. Below is an outline of a response paper and a self-assessment tool. Your finished paper should be a minimum of three pages single-spaced and should include each of the aspects listed below. However, I will also evaluate the level of your response to the readings by your analysis of the concepts presented in the readings. In your analysis you should demonstrate a coherent understanding the readings and you should respond to the concepts presented in them with your analysis of how important these ideas are to educational programs implementing new technologies.

### **Outline of a Response Paper to the assigned readings**

Problem or Topic

Identify the topic of the paper.

Describe the technology program or topic you will evaluate.

Identify the history and or background for this topic or program.

Describe the goals and objectives for the program of inquiry.

Include a summary goals statement.

Respond with your overall analysis

Write your ideas about the potential of this program to meet its goals.

Why? Or Why not?

Reference your educational experience or any further readings to support your analysis.

### **Notes on Self Evaluation Sheets**

The evaluation sheets are designed to help you understand how best to complete the assignments. You can use them to guide you while you are working. When you have finished an assignment, fill out the evaluation sheet and submit it with your paper. If your answer to each question was "yes", you have most likely written an "A" paper. Your instructor will let know if s/he agrees with your self-evaluation. Your instructor may be in agreement or may point out areas for improvement.

Of the various categories, "General Merit" is the most important. Sometimes students are confused by the criteria, "discrimination and subtlety, not grossness and imperceptivity."

Here the word "discrimination" means the quality or power of finely distinguishing

Here the word "subtlety" means the quality or state of being perceptive and refined

Here the word "grossness" means glaringly noticeable, coarse, unrefined

Here the word "imperceptivity" means imperceptiveness, the quality or state of not being perceptive

On the "Research" section, one category for evaluation is "Limitations of the study are discussed." Published articles in the social sciences often have an entire paragraph entitled "Limitations." The limitations are those aspects of the study that could potentially lead to faulty interpretations or conclusions. You should reference the assigned readings using APA style in your paper and include the list of references as an appendix to your document.



**Assessing the Role of Technology in Education EDCI 572**

**Masters of Arts in Curriculum and Instructional Leadership  
Emphasis Area: Learning Technologies**

**University of Missouri-Kansas City  
School of Education  
Curriculum and Instructional Leadership**

**Syllabus EDCI 589AR**

**SCHEDULE:**

Fall 2005 session  
Online  
Northland Campus

**INSTRUCTOR**

Donna Russell, Ph.D.

**OFFICE**

309 School of Education  
(816) 235 -5871  
314.210.6996

**OFFICE HOURS**

by appointment

<b>Reference Number</b>	17243
<b>Department</b>	EDCI
<b>Course Number</b>	589AR
<b>Section</b>	V0A
<b>Full Title</b>	Special Topics in Education: Assessing the Role of Technology in Education
<b>Instructor Name</b>	Dr. Donna Russell Online

**TEXT**

**Required text:**

**Teachers and Machines: The Classroom Use of Technology Since 1920 and Oversold and Under Used** by Larry Cuban, [http://www.amazon.com/exec/obidos/tg/detail/-/080772792X/qid=1091402461/sr=1-5/ref=sr\\_1\\_5/102-4130154-4028926?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/080772792X/qid=1091402461/sr=1-5/ref=sr_1_5/102-4130154-4028926?v=glance&s=books)  
Both for \$26.29 on Amazon.com

**The Children's Machine: Rethinking School in the Age of the Computer**  
by Seymour Papert [http://www.amazon.com/exec/obidos/tg/detail/-/0465010636/ref=pd\\_sim\\_books\\_4/102-4130154-4028926?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/0465010636/ref=pd_sim_books_4/102-4130154-4028926?v=glance&s=books)  
\$17.00 Amazon.com

#### **Research Articles:**

##### **Research Methodology:**

Barab, S. A., Hay, K. E., Yamagata-Lynch, L. C. (2001). Constructing networks of activity: An in-situ research methodology. *The Journal of Learning Sciences*, 10(1&2), 63-112.

##### **Research of Educational Technologies and Learning:**

Lolodner, J., & Guzdial, M. (1996). Effects with and of CSCL: Tracking learning in a new paradigm. In t. Kosmann (Ed.), *CSCL: Theory and Practices of an Emerging Paradigm* (pp. 307-320). Hillsdale, NJ: Lawrence Erlbaum and Associates.

##### **Online Resources**

Web-Based Education Commission. (2000). *The power of the Internet for learning: Moving from promise to practice*. Washington, DC.  
<http://www.ed.gov/offices/AC/WBEC/FinalReport/index.html>

[A Retrospective on Twenty Years of Education Technology Policy \(2003\)](#)

[Assessing the Impact of Technology in Teaching and Learning: A Sourcebook for Evaluators \(2002\)](#)

[Internet Access in U.S. Public Schools and Classrooms: 1994-2002](#)

[Internet Access in U.S. Public Schools and Classrooms: 1994-2001](#)

Contemporary Issues in Technology and Teacher Education:  
<http://www.citejournal.org/vol4/iss1/>

American Educational Research Association: SIG: Communication of Research. Online journals.  
<http://aera-cr.asu.edu/links.html>

Educational Technology Online Journals, Conference Proceedings and White Papers  
<http://www.tcet.unt.edu/journal.htm>

#### **Supplemental Readings related to core course concepts:**

APA Publication Manual: Fifth Edition

#### **Education Journals and Newsletters available on the Internet**

<http://www.scre.ac.uk/is/webjournals.html>

#### **ASCD's Web Commission E-Testimony**

<http://www.ascd.org/educationnews/etestimony.html>

#### **OVERVIEW**

#### **Course Description**

The purpose of the course is to develop an understanding of trends and issues on the changing role of technology in education by reviewing current and historical articles on the topic. This includes a historical analysis of trends and expectations within educational settings and outside educational settings, including social and cultural expectations, for educational technologies, the relationship between technology integration and cultural expectations and, ultimately, defining, through a position paper, the educator's new understandings of the role of technology in educational settings, past, present and future.

### **Learner Outcomes**

This course is part of a master's degree program in Curriculum and Instructional Leadership that is designed to develop educators with the capability to design, develop, implement and evaluate learning technologies programs in a variety of learning environments. The program is also designed to enable educators proactive, reflective, and collaborative professionals capable of innovative responses to new developments in the field of learning technologies.

The learner will:

1. review and historically situate seminal studies of innovative technology-based educational settings
2. design and develop an evaluative research project of an innovative technology-based setting.
3. analyze the social and cultural issues embedded in the integration of new technologies into educational settings
4. anticipate the potential for emerging technologies in future learning environments

### **Learner Activities**

Students in this course will review and discuss seminal literature on the historical context of educational technologies. The students will develop a paper identifying the longitudinal trends and the correlating social and cultural issues in past integration programs. Students will write a position paper describing the potential of learning technologies in future settings using information from previous readings and class discussions. A writing style self-assessment checklist is included in this syllabus. See **Self-Evaluation – Writing Styles on page 14.**

### **Assessment/Assignments**

**1. 1 Readings Response Paper:  
total 100 points**

Students will read and review a web commission article on trends for integrating technology in educational settings and write a response paper identifying trends and issues in technology integration programs. Response papers to conceptual pieces, such as this article, will be a minimum of 5 pages single-spaced. A guide for writing a response paper is included below. See **Response Papers on page 12.**

**2. 2 Research Evaluation Papers:  
100 points each/ total 200 points**

Students will create 2 evaluations of research papers that identify the major aspects of a research paper and critique the conclusions. Evaluation papers will be a minimum of 5 pages single-spaced. A guide for evaluation of research articles is included below. **See Outline of an Evaluation of Research Paper – page 10.**

**3. 1 Response Position Paper:  
200 points total**

Students will write a response position paper identifying and referencing their position on present and future technologically-based educational programs. Minimum of 5 pages single-spaced and referenced correctly using APA style. A guide for writing a response paper is included below. See **Response Papers on page 12.**

**5. Respond to assigned book readings in 7 weekly online discussions:  
20 points each / 140 points total**

Students will respond to online discussions of the assigned readings and demonstrate understanding of the technology programs. Questions will be posted on the discussion board each week by the instructor.

**Total points –640 total**

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### Weekly Schedule

Date	Format	Topic	Reading	
<b>August</b>				
23	MEET AT NORTHLAND	Topics: Introductions to the course; goals and objectives, schedule Discussion: Overview of technology usage for 20 years	Read <i>Twenty Years of Education Policy-A Retrospective on Twenty Years of Education Technology Policy</i> (2003)	DI IN
Session 2	online	Topic: Discussion of trends in educational technology programs. Methodology: Activity Theory Discussion of Activity Theory and the evaluation of learning using contextual and systemic methods. Assign the Barab article on research methodology	Barab, S. A., Hay, K. E., Yamagata-Lynch, L. C. (2001). Constructing networks of activity: An in-situ research methodology. <i>The Journal of Learning Sciences</i> , 10(1&2), 63-112.	
Session 3	online	Topics: Research Design: Methodology: Activity Theory	Read <b>Teachers and Machines: The Classroom Use of Technology</b>	DI RE

		Discussion of Activity Theory and the evaluation of learning using contextual and systemic methods. Assign the Barab article on research methodology	<b>Since 1920</b>	TE
October				
Session 4	online	Topics: AT Research Design: Discussion of Barab article on developing an understanding of learning in educational settings.		Re Id an
Session 5	online	Topics: designing educational technology research: Discussion: Overview Guzdial article Learning and development in educational technology programs	Lolodner, J., & Guzdial, M. (1996). Effects with and of CSCL: Tracking learning in a new paradigm. In t. Koscmann (Ed.), <i>CSCL: Theory and Practices of an Emerging Paradigm</i> (pp. 307-320). Hillsdale, NJ: Lawrence Erlbaum and Associates.	DI RE TE
Session 6	online	Topic: methodologies for understanding learning in technology-based programs Discussion of learning principles and methodology outlined in Guzdial article:	<b>Read Oversold and Under Used</b>	Re Id an co:
November				
Session 7	online	Topic: evaluation of learning in ed tech programs Overview of article on web-based learning programs Discussion- longitudinal analysis of educational technology programs and their effectiveness for developing learning abilities. Assignment: response paper on Web commission article	Web-Based Education Commission. (2000). <i>The power of the Internet for learning: Moving from promise to practice</i> . Washington, DC. Read commission's article.	RE BC ON
Session 8	online	Topic: evaluation of effectiveness of web-based educational programs in developing learning abilities Review of article on web-based learning programs		Su Cc
Session 9	online	Topics: sources of educational technology programs for study Assignment: Identification of educational technology program for study	Students identify their own topics for research	RI BC UT
Session 10	online	Topics: identification of research topic and introduction to topics Post research topics and introductions-		To
Session 11	online	Topic: evaluation of research papers review research evaluation process:		RE BC UT

		Discussion: research and evaluation of learning technologies programs=What types of new understandings are possible using new technologies?		
December				
Session 12	online	Topic: students describe methods used to research Post research methods for study paper	<b>Read The Children's Machine: Rethinking School in the Age of the Computer</b>	Int inc ba
Session 13	online	Topic: identification of data gathering tools Discussion: methods and potential tools used to understand learning in educational technology settings.		RE BC TF
Session 14	online	Topic: Conclusion for position research paper Discussion: students post and discuss the data gathering tools designed for their research.		Mo du us
Session 15	online	Topic: students discuss the potential research project identified in their papers Discussion: How does their research identify the characteristics of learning developed in educational settings using technology? Review and self-evaluation of research paper Post research paper	Research Position Paper due: introduction section, methods section and conclusions	PC SE
Session 16	MEET AT NORTHLAND	Topics: Dialog on self-assessment and review of posted position papers: position research papers Discussion: Review of all posted papers		Se po

**Development of Learning Technologies Programs  
EDCI 573**

**Masters of Arts in Curriculum and Instruction  
Emphasis Area: Learning Technologies**

**University of Missouri- Kansas City  
School of Education  
Curriculum and Instructional Leadership**

**Syllabus**

**SCHEDULE**

Winter Session 2005  
Online Course  
Northland Campus

**INSTRUCTOR**

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by appointment

**TEXT**

A review of literature on current technology programs including:

**CSILE**

Scardamalia, M., & Bereiter, C. (1991). Higher levels of agency for children in knowledge building: A challenge for the design of new knowledge media. *Journal of the Learning Sciences*. 1(1), 37-68.

**Instructional Software Design Project (Harel and Kafai)**

Harel, I., & Papert, s. (1990). *Software design as a learning environment*. *Interactive Learning Environments*. 1(1), 1-32

**KIE**

Bell, P., Davis, E., & Linn, M.C. (1995). *The Knowledge Integration Environment: Theory and Design*. In t. Koschmann (Ed), *Proceedings of the Computer Support for Collaborative Learning 1995 conference*, Bloomington, IN

**ITS**

Anderson, J.R. , Corbett, At. T., Koedinger, D. R., & Peletier, r. (1995). Cognitive tutors: Lessons Learned. *Journal of the Learning Sciences*, 4(2), 167-208.

**STABLE**

Guzdial, M., & Kehoe, C. (1998). Apprenticeship-based learning environments: A principled approach to providing software-realized scaffolding through hypermedia. *Journal of Interactive Learning Research*, 9(3/4)

**WebQuest**

[http://www.education-world.com/a\\_tech/tech020.shtml](http://www.education-world.com/a_tech/tech020.shtml)

**OVERVIEW**

**Course Description**

The purpose of this course is to review a variety of technology programs currently implemented in traditional and non-traditional settings. The course readings will expose students to a wide variety of technology-based learning environments in order to develop the students' conceptual understanding of the potential benefits and costs of developing technology programs.

The educators will review current use of a variety of technologies including online technologies that are integrated into traditional settings and non-traditional settings and review their potential to meet standards-based learning outcomes and constructivist-based learning outcomes. The educator will evaluate new technology programs that potentially can be implemented in their local settings and make decisions on the efficacy of the implementation.

**Intended Learning Outcomes:**

This course is part of a program to develop educators with the capability to design, develop, and evaluate learning technologies into a variety of learning environments. The course is designed to develop educators' ability to evaluate technologies-based programs and design programs that integrate new technologies into educational settings. The students will be working in interactive online groups in order to produce their projects.

In this course the learners will:

5. Review and evaluate a current technology-based program based on the long-term goals for the program.
6. Design and develop a plan for implementation of a technology-based program.

### **Learner Activities**

1. Students in this course will write critiques of a variety of current and potential learning technology formats including online learning forums such as WebQuest, Shadow Net Workspace and Web Forum, productivity programs such as word processing programs and presentation programs variety of learning software including as simulation software.
2. The students will work in online project groups to respond to a problem-space and design a strategy for addressing the tech-based problem.

Potential problems for consideration include:

1. Design the online curriculum for a graduate course involving several professors in differing countries.
  - a. Survey all professors
  - b. Identify common trends in curriculum
  - c. Design online curriculum
2. Design an online data mining agenda for the SOE NCATE review in 5 years including:
  - a. Management of server-- on-site or out source
  - b. Middleware design
  - c. Design forms for faculty and students
3. Design professional development program for new STAR lab at the School of Education including:
  - a. Survey of local districts for inservice needs
  - b. Survey preservice students for needs
  - c. Design response
    - i. Inservice – on site or in SOE
    - ii. Productivity training for preservice
4. Design presentation for laptop program for SOE.
  - a. Research university policy
  - b. Research other public universities programs
  - c. Develop proposal for laptop program
5. Design a local program- open to student input/need
  - a. Develop a wireless handheld program
  - b. Write a grant for a technology-based solution
  - c. Develop a pd for a current technology program

### **Assessment/Assignments**

All the projects created for this course will be scored using scaled rubrics.

#### **3 Evaluation Papers: 30% (individual evaluation)**

The research evaluation papers will identify the methodologies of the research articles and evaluate the effectiveness of the different technologies reviewed and the usage in various learning environments.

#### **Group Presentation of Technology Problem and Response: 50% (group evaluation)**

Each group will study a problem using CrissCross present on the characteristics of the technologies reviewed, the affordances and constraints of the technologies, and identify the potential benefit from the addition of these technologies. The students will develop their group work online using Criss Cross. The projects will be a Powerpoint presentation created by the group and presented online for whole class and with a self-evaluation of the project. The projects will be evaluated by the group's use of the online problem-based forum.

#### **Online Discussion: 20% (group evaluation)**

The students will respond to online problem-based learning program using the varying strands and characteristics of the online problem-space.

### **Online course information**

#### **Blackboard**

In order to be successful in this online course the students will need access to the internet using IE or Netscape. The blackboard site is located at [www.blackboard.umkc.edu](http://www.blackboard.umkc.edu). The students will also need to use your **UMKC username and password** when accessing Blackboard. For assistance with Blackboard, please contact them online at [UMKC Information Services Call Center](http://UMKC Information Services Call Center) at 816-235-2000 or e-mail at [CallCenter@umkc.edu](mailto:CallCenter@umkc.edu).

It is important in the online environment that the students stay with the schedule so the course schedule will allow for timed responses such as downloading and uploading only during the time the topic/readings are current. It is also important that the students stay in touch with the instructor if there are any technology related issues or any other issues that arise during the course.

The students can also benefit from having Adobe Reader on their home computer and can download from this address, <http://www.adobe.com/products/acrobat/readstep2.html>, if it is not loaded into their computer. Students in this course should allow themselves ample time to on the computer to respond to the discussion board postings, download the assigned readings and upload their completed work.

### **UMKC Policies**

Disability, Academic Honesty, & English Proficiency Policies

**Academic Honesty**—It is the philosophy of the University of Missouri Kansas City that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

**English Proficiency**—Students who encounter difficulty in their courses because of the English proficiency of their instructors should speak directly with their instructors. If additional assistance is needed, the students may contact the UMKC Help Line at 816-235-2222 for assistance."

**Students with Disabilities**—To obtain disability related accommodations and/or auxiliary aids, students with disabilities must contact the Office of Services for Students with Disabilities (OSSD) as soon as possible. To contact OSSD, call (816) 235-5696. Once verified, OSSD will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided.

### **SOE Mission Statement**

The mission of the School of Education is that of empowering professionals as reflective practitioners committed to a more just and democratic society. This mission is focused on the development of five concepts: academic excellence, inquiry leading to reflective decision-making and problem-solving, skilled and knowledgeable professionals working collaboratively, democracy and social justice and creating caring and safe environments. This course will lend itself to the development of academic excellence, inquiry and reflective problem solving and the creation of caring and safe environments.

UMKC is committed to providing equal access to its learning environment. If you are an individual with a specific hearing, sight, physical, psychiatric, learning or other disability, you may be eligible for support services. Please contact Scott Laurent, Coordinator of Services for Students with Disabilities at (816) 235-5696.

		Discussion :introductions, course goals, review syllabus, assign readings Assignment: article on CSILE	Scardamalia, M., & Bereiter, C. (1991). Higher levels of agency for children in knowledge building: A challenge for the design of new knowledge media. <i>Journal of the Learning Sciences.</i>	
Session 2	online	Topics: online learning forums: how does the online environment facilitate or constrain learning Discussion: review of article on online learning by Bereiter: Knowledge Forum and introduce WebQuest article Assignment: Research Evaluation Article 1 go over guidelines for assignment	<b>WebQuest</b> <a href="http://www.education-world.com/a_tech/tech020.shtml">http://www.education-world.com/a_tech/tech020.shtml</a>	Assign WebQuest article
Session 3	online	Topics: Guidelines for project 1-how to create a WebQuest site. Discussion: Review the evaluation article guidelines		Research evaluation article 1 due Session 4
Session 4	online	Topic: Knowledge Integration and Design Post Project 1: creation of WebQuest pages on topic of student choice Assignment: read KIE article.	<b>KIE</b> Bell, P., Davis, E., & Linn, M.C. (1995). <i>The Knowledge Integration Environment: Theory and Design.</i> In T. Koschmann (Ed), Proceedings of the Computer Support for Collaborative Learning 1995 conference, Bloomington, IN	Webquest posted by session 5 Read Bell article
February				
Session 5	online	Topic : The design of digital learning environments Discussion: Review of design principles and knowledge construction .		
Session 6	online	Topic: Hypermedia and multimedia learning environment-How does media integration affect learning responses? Discussion: Overview of Guzdial article on simulation software Assignment: evaluation paper 3 Assign Powerpoint project 2	STABLE Guzdial, M., & Kehoe, C. (1998). Apprenticship-based learning environments: A principled approach to providing software-realized scaffolding through hypermedia. <i>Journal of Interactive Learning Research, 9(3/4)</i>	Read article by Guzdial Evaluation paper 2 due session 8
Session 7		Topic: cognitive processes and software design Post Project 2: creation of a PowerPoint simulation with hypermedia aspects. Assign article on CSCL		Project 2- powerpoint due session 11
Session 8	online	Topic: educational software and middleware Discussion: review of article on simulation software and CSCL Assignment: evaluation paper of article.	<b>ITSs</b> Anderson, J.R. , Corbett, At. T., Koedinger, D. R., & Peletier, r. (1995). Cognitive tutors: Lessons learned. <i>Journal of the Learning Sciences, 4(2), 167-208.</i>	Read Anderson article Evaluation article due session 10
March				
Session 9	online	Topic: educational software and middleware using interactive learning environments Discussion: Introduce Harel and Papert article.	<b>Instructional Software Design Project (Harel and Kafai)</b> Harel, I., & Papert, s. (1990). <i>Software design as a learning environment. Interactive Learning Environments.</i>	Discussion Board response to Project article- posted by session 10
Session 10	online	Topic: introduction of groupproject-technology forum described and referenced Discussion: Introduce the group projects. Assignment: Identification of topic for group project	Technology Forums online learning environments hypermedia/ multimedia software middleware/ database management	Groups work online to develop final project introductory response- introduce technology forum describe a current program
Session 11	online	Topic: The development schedule of group projects Discussion: Project groups collaborate online to develop resource focus		Topic for final group project due.
Session 12	online	Topic: the development schedule for group projects Discussion: project groups work online: develop resource focus:		
April				
Session 13	online	Topic: Evaluation for project evaluation		





Curriculum and Instructional Leadership  
School of Education  
University of Missouri-Kansas City

Masters in Curriculum and Instructional Leadership:

Emphasis Area; Learning Technologies

Instructor: Donna Russell, Ph.D.

**Response Papers**

**Description of the Assignment:**

During this course you will write 3 response papers of current concepts in the field of cognition and/or technology. Below is an outline of a response paper and a self-assessment tool. Your finished paper should be a minimum of three pages single-spaced and should include each of the aspects listed below. However, I will also evaluate the level of your response to the readings by your analysis of the concepts presented in the readings. In your analysis you should demonstrate a coherent understanding the readings and you should respond to the concepts presented in them with your analysis of how important these ideas are to educational programs implementing new technologies.

**Outline of a Response Paper to the assigned readings**

Problem or Topic

Identify the topic of the paper.

Describe the technology program or topic you will evaluate.

Identify the history and or background for this topic or program.

Describe the goals and objectives for the program of inquiry.

Include a summary goals statement.

Respond with your overall analysis

Write your ideas about the potential of this program to meet its goals.

Why? Or Why not?

Reference your educational experience or any further readings to support your analysis.

## Notes on Self Evaluation Sheets

The evaluation sheets are designed to help you understand how best to complete the assignments. You can use them to guide you while you are working. When you have finished an assignment, fill out the evaluation sheet and submit it with your paper. If your answer to each question was "yes", you have most likely written an "A" paper. Your instructor will let know if s/he agrees with your self-evaluation. Your instructor may be in agreement or may point out areas for improvement.

Of the various categories, "General Merit" is the most important. Sometimes students are confused by the criteria, "discrimination and subtlety, not grossness and imperceptivity."

Here the word "discrimination" means the quality or power of finely distinguishing

Here the word "subtlety" means the quality or state of being perceptive and refined

Here the word "grossness" means glaringly noticeable, coarse, unrefined

Here the word "imperceptivity" means imperceptiveness, the quality or state of not being perceptive

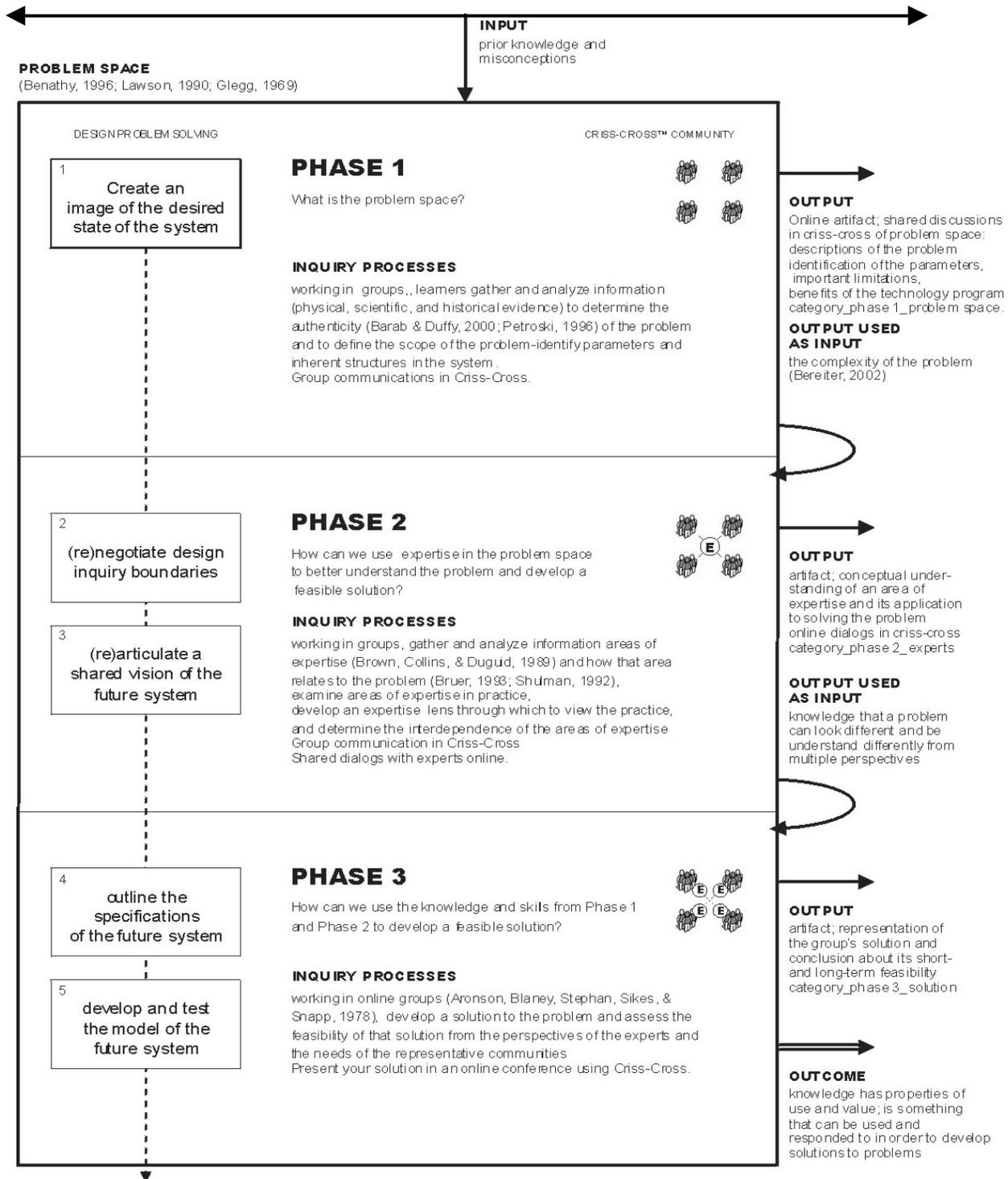
On the "Research" section, one category for evaluation is "Limitations of the study are discussed." Published articles in the social sciences often have an entire paragraph entitled "Limitations." The limitations are those aspects of the study that could potentially lead to faulty interpretations or conclusions. You should reference the assigned readings using APA style in your paper and include the list of references as an appendix to your document.

### Self-Evaluation - Response Paper

Fill out and submit with this self-assessment with your paper. Select the checkmark and copy it into the document.

Criteria		
<b>General Merit</b>	a	
Ideas are insightful		
Ideas are creative and original		
Use of detail, richness, vividness and probing		
Discrimination and subtlety (of ideas) , not grossness and imperceptivity		
How and why this topic can be incorporated into a study of learning technologies		
Integration of course reading materials		
Exploration of course material		
Understanding of research and theories studied		
Application to future work with technologies		
<b>Research</b>		
Important details about readings are mentioned		
Other resources are mentioned		
Responses to some of the discussion questions are incorporated in the written assignment		
Sufficient information is gathered for meaningful analysis		
Limitations of the study are discussed		
Value of the study is discussed		
<b>Writing</b>		
Ideas are expressed with clarity		
The paper is concisely written		
The voice of the writer is real; the style of the writing is consistent		
The writer uses definite, specific, concrete language		
There are no cliches, jargon, heavy alliterations, accidental rhymes etc.		
<b>Organization</b>		
The paper contains an introductory section		
Main points are adequately developed		
The paper contains a conclusion		
Each paragraph is relevant and has a controlling idea		
Each paragraph is developed with supporting and concrete details		
Ideas are presented in a logical order		
Transitions are smooth; ideas flow		
<b>Mechanics</b>		
Words are spelled correctly		
Punctuation is correct		
There are no serious grammatical errors		
There are no distracting errors in word usage		
Sentences are not awkward		
Citations and references are presented in correct format		
The paper has been proofread		
<b>Summary</b>		
number of hours spent in preparation		
anticipated grade		
Comments-		

# PROBLEM SPACE



Criteria

1. Phase 1- Definition of Problem Space
  - a. Group uses criss-cross to identify the problem
  - b. Categorization is problem-space
  - c. Group identification of important characteristics
  - d. Group identification of potential benefits
  - e. Group identification of potential constraints
  - f. Initial dialog concerning strategies
  - g. Create evaluation matrix for potential strategies
2. Phase 2- Development of Expertise
  - a. Dialog on areas of expertise
  - b. Individual contact expertise
  - c. Summarize in criss-cross expert response
  - d. Dialog on expert area in criss-cross
  - e. Create a document outlining expert areas and important knowledge necessary to solve problem
  - f. Dialog concerning strategies
  - g. Revise evaluation matrix using expert input
  - h. Evaluate strategies using matrix
3. Phase 3- Solution
  - a. Dialog on strategies
  - b. Evaluate all strategies
  - c. Choose strategy for final solution
  - d. Develop a plan of action
  - e. Create a schedule
  - f. Create an evaluation process
  - g. Create an online powerpoint presentation of solution (assessment below)

**Development of Learning Technologies Programs:  
EDCI 573**

*Self Evaluation Form for Final Online Group Presentation*

*Instructions:*

Please complete the self evaluation report below. Save your work to your drive, and submit your completed form on the website assignments page.  
Select the checkmark and copy (control-c) and paste (control-v) it into the form.

DEVELOPMENT OF LEARNING TECHNOLOGIES PROGRAM / ONLINE PRESENTATION EVALUATION SHEET		
Your name:		
<b>Group Topic:</b>	<b>yes</b>	<b>no</b>
<b>General Merit</b>		
Project and/or ideas original	a	
Online presentation is thought-provoking		
Ideas are well-researched		
Meaningful analysis of topic		
Exploration of course material		
Advanced knowledge of learning technologies topic evident		
Focus on the essential elements of topic of online presentation		
Written materials are concise and specific		
Visual materials in online presentations convey essential concepts		
Title conveys the topic (with flair)		
Abstract is comprehensive summary		
<b>Organization and Presentation</b>		
Visual impact attracts viewers		
Presentation flows in logical sequence		
Introduction, body, and conclusions are included		
Simplicity, clarity, attractiveness		
Graphic materials easily visible		
Citations and references are presented in correct format.		
<b>Summary</b>		
Number of hours spent in preparation		
Anticipated grade		
Other comments		

CRISS-CROSS  
ONLINE PROBLEM-BASED LEARNING ENVIRONMENT