

EDCI 712 – Technology and Learning

3 credit hours

* Coding in **bold** reflects ISTE NETS standards for Educational Computing and Technology Facilitation

1. Course Description

This three credit hour course is designed to explore ways of knowing and theories of learning as they are reflected in and influenced by technology. Attention will be paid to analysis, application, and evaluation of current theories such as constructivism, multiple intelligences, the role of symbolization in human cognition, the development of problem-solving and critical thinking strategies, and the conditions of learning. Attention will be paid to the relationship between technological forms and the nature and structure of human cognition especially as it influences K-12 educational practice. In addition, the course will explore the relationship between technology and the nature of individual learner attributes, of learners in context, of special needs learners, of culture and of multiple cultures, and issues of access, equity, and values.

2. Methodology

The course is structured around readings, reflections on those readings, class projects, on-line discussions and activities, and participation in a series of model lessons designed to reflect strategies for the integration of technology with the teaching/learning process. Using this collection of activities, the methodology of the course seeks to build clear bridges between technology know how, theoretical/research perspectives, and classroom practice.

3. Objectives

The following objectives have been established for the course:

1. Students will develop an understanding of the complexities of human thought and intelligence(s); **II-A, II-B, II-F, III-B, III-C, III-E, IV-A, IV-C, VI-C**
2. Students will develop an understanding of the role of symbolization in supporting human thought and intelligence(s); **II-A, II-B, II-F, III-B, III-C, III-E, IV-A, VI-C**
3. Students will develop an understanding of constructivist notions of learning; **II-A, II-B, II-F, III-B, III-C, III-E, IV-A, VI-C**
4. Students will develop an understanding of the relationships between the structure of information technologies and the structure of thought; **II-A, II-B, II-F, III-B, III-C, III-E, IV-A, VI-C**
5. Students will be able to use understandings gleaned from Objectives 1 through 4 to build appropriate bridges between learning theory and the design of learning opportunities for their own students. **II-A, II-B, II-C, II-D, II-E, II-F, III-A, III-B, III-C, III-D, III-E**

4. Texts and Materials

1. Students need to obtain and read:
 - a.) Brooks and Brooks' *In Search of Understanding*
 - b.) E. Eisner's *Cognition and Curriculum Reconsidered* (1994)
 - c.) Tishman, et. al. *The Thinking Classroom* (1996)
 - d.) L.S. Vygotsky, *Mind in Society* (1978)
 - e.) Scarmaldia & Bereiter, *Surpassing Ourselves* (1992)
 - f.) Xeroxed article distributed in class
2. Students are expected to obtain and bring to class appropriate materials and supplies to include 3 ½ “ disks and note taking materials.
3. Students must have an email account and regular, systematic, easy access to both telecommunications and a computer.

5. Course Requirements

1. Attendance in class is mandatory, as discussions, lectures, and hands-on activities are important parts of the course.
2. Each student is expected to complete all readings and participate in all on-line discussions.
3. Each student is expected to participate in and complete all classroom projects.
4. Students who must miss a class are responsible for notifying the instructor (preferably in advance) and for completing any assignments, readings, etc. before the start of the next class.
5. All written assignments must be completed on a word processor. Assignments are to be turned in at the beginning of class on the date due. Late assignments will not be accepted without making prior arrangements with the instructor.

6. Course Assignments

1. Online Portfolio (30 points): Throughout their program of study, students are required to create and continually revise a professional, online portfolio. This portfolio should not be a collection of what the student has done, but rather a reflection of what they have learned. Templates and assistance will be provided during class to assist students in the creation and maintenance of this portfolio. All exhibits in the online portfolio will include a short reflection. At the end of the semester, a comprehensive, semester-wide reflection and supporting samples of work will be added to the portfolio reflecting student learning related the semester's work; **Performance-based outcome for objectives 1, 2, 3, 4, & 5.**

2. An Educational Playful World (40 points): As a collaborative project, students will divide into groups of four. Each group will reflect on notions and understandings about the process of teaching/learning gleaned from class readings and experiences. Using their reflections, students will invent a playful world that is suited to the needs of learners. They will prepare the package for that product. **Performance-based outcome for objectives 1, 2, 3, 4, & 5.**
3. Class Participation (30 points): The class depends heavily on class participation and completion of in class activities. Points will be awarded for participation and completion of these activities.

7. Evaluation

Since this is a graduate level course, high quality work is expected on all assignments and in class. Points for all graded assignments (see section 6) will be based on the scope, quality, and creativity of the assignments. All assignments are due at the beginning of class. Late assignments will not be accepted without making arrangements with the instructor.

Points will be assigned to all graded assignments using a rubric process. Both class participants and the course instructor will be involved in assessment of graded assignments. Prior to the due date for any assignment, the class will participate in the development of an assessment rubric. This rubric will result from a discussion of applicable course objectives and an elaboration of qualities and components associated with excellence in completion of the assignment.

When assignments are presented on the designated due date, class participants and the instructor will complete an assessment of the assignment using the rubric created in class. Class participants' ratings on the rubric will be averaged. Then the class participants' average will be averaged with the instructor's ratings on the rubric to compute a final point value for assignments. In this way, the development of the rubric will inform the final completion of the assignments as well as serve as the instrument for assessment and determination of points awarded.

Spring, 2005: Schedule of the Group's Work

Special Note: Create an Art Bag and bring to class regularly. Also, bring ample disks and carry them to class each week!

	Loudoun	Commerce		Loudoun	Commerce
Week 1	1/26	1/27	Spring Break	3/23	3/24
Week 2	2/2	2/3	Week 9	3/30	3/31
Week 3	2/9	2/10	Week 10	4/6	4/7
Week 4	2/16	2/17	Week 11	4/13	4/14
Week 5	2/23	2/24	Week 12	4/20	4/21
Week 6	3/2	3/3	Week 13	4/27	4/28
Week 7	3/9	3/10	Week 14	5/4	5/5
Week 8	3/16	3/17	Week 15	5/11	5/12

DATE	C lass Activities	Reading Assignments	On-Line Assignments
Week 1	Introduction and Syllabi Thinking Patterns and Simulations: SJR and The Game of Life Introduction to Computer Graphics ----- Draw Program Tools – A Mask Draw and Color: Two More Masks	Read <i>Situated Cognition and the Culture of Learning</i> Read <i>Situated Cognition and the Culture of Learning</i> Read <i>Situated Cognition and the Culture of Learning</i> Make your mask 3-dimensional – Bring to Class	
Week 2	A Parade of Masks Situated Acrostics ----- Review: Contrasting Draw and Paint The Tools of Paint Programs Paint & Perspective – Take Off Your Shoe	Read Chapter 3 in Norton/Sprague Study Chapter 1 in <i>Visual Language</i> By Robert Horn – in copied material	
	Inspirational Graphics – Have activity	Read 1 st half of Eisner's <i>Cognition and</i>	

Week 3	----- The New You - Altering Images A Portfolio Banner	<i>Curriculum Reconsidered</i>	
Week 4	Working with Symbols: Phormia, the Big Five, Learning to Read – Alphabet, <i>Children of Fortune</i> Repeat with Graphics – Discussion ----- Internet-Based Background Graphics A Graphics Portfolio Template	Finish Eisner’s <i>Cognition and Curriculum Reconsidered</i>	
Week 5	A Poetic Adventure ----- Creating a Graphics Portfolio	Read 1 st half Vygotsky – <i>Mind in Society</i>	
Week 6	A Time Capsule – This class will be taught completely online!!!!	Finish Vygotsky – <i>Mind in Society</i>	Begin working on Graphic Lesson Plan and Letter
Week 7	A Mind Map ----- Work on Time Capsule	Read Chapter 1 from <i>Got Game</i> – in copied material Read 1 st half of <i>Surpassing Ourselves</i>	Work on Graphic Lesson Plan and Letter
Week 8	Graphics Lesson Plan and Letter to Parents Due Time Capsule DUE – 6 pm An Archaeological Dig ----- Working on Graphics Portfolio	Finish <i>Surpassing Ourselves</i>	Work on Graphic Portfolio
	SPRING BREAK	SPRING BREAK	SPRING BREAK
Week 9	Graphic Portfolio DUE Portrait of an Expert ----- Special Delivery from the West Video Games – Pong, Etc.	Read <i>The Thinking Classroom</i> – Chptrs 1 through 5	2/3 Hrs on Roller Coaster Tycoon Work on Artful, Online Portfolio
Week 10	Discussion of Readings - Thinking ----- Problem-Solving Software – <i>Castle, Putt Putt, Castle Explorer, At Sea,</i>	Read <i>The Thinking Classroom</i> – Chptrs 6 through 9	2/3 Hrs on Roller Coaster Tycoon

	Lemmings Simulation Software – Hot Dogs		
Week 11	<p>20 Minutes on Television Video on Video The World’s Greatest Hamburger ----- Divide into Video Groups- A Three Minute Instructional Video Treatment Approved by End of Class</p>	<p>Read <i>The Thinking Classroom</i> – Chptrs 10 through 14 Read <i>I Sing the Body Electric</i> – in copied material</p>	2/3 Hrs on Roller Coaster Tycoon
Week 12	<p>Discussion of Readings Video – <i>The Electronic Grandmother</i> ----- Storyboard Approval before Filming Work on Three Minute Instructional Video</p>	<p>Read <i>The Disappearance of Childhood</i> Read <i>The Bicentennial Man</i> – in copied material</p>	<p>2/3 Hrs on Roller Coaster Tycoon Work on Video Lesson Plan and Letter Begin Working on portfolio Bring All Books to Class</p>
Week 13	<p>Bring All Books to Class Work on Three Minute Instructional Video - Due at 6 pm ----- Discussion of Readings Video – <i>Lal</i> Invent a Game ?????</p>	Bring ALL books to the next class	<p>2/3 Hrs on Roller Coaster Tycoon Work on Video Lesson Plan and Letter Work on portfolio Work on Final Exam</p>
Week 14	Get Game – A Summative Final Activity		<p>Work on Video Lesson Plan and Letter Work on portfolio</p>
Week 15	<p>Video Lesson Plan and Letter To Parents Due Portfolio Link Due Get Game Due at 6 pm with Pitch Meet Online Courses for the Summer Share Portfolios</p>	Summer School Starts Next Week	