

IPT 520: Foundations of Instructional Technology

Course website: <http://www.the-wests.net/rick/foundations>



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Office Hours: Virtually & face-to-face on Tuesdays, 2-4 p.m. or by appointment.

Class Time: Mondays, 11-12:50 p.m.; Wednesdays 11-11:50 a.m. in MCKB 359

Note

The online version of the syllabus is the one more frequently updated. In the case of any discrepancy (i.e. changed deadlines or point totals), refer to the online version over this paper version.

Course Description & Objectives

What is this field you are entering anyway? What is its history? What are the pressing issues? What do you need to know and be able to do to be successful in it?

These are questions that you probably have as you begin graduate work in our department. These are the questions we will try to answer this semester! By the end, it is my hope that you will:

- Understand the history of the field of Instructional Technology, including the various trends, people, and issues that shaped it.
- Understand the current issues, discussions, research, and debates in this field as well as comparable sister professions.
- Clarify and define your own professional trajectory into your profession including your personal beliefs; the kind of career you are seeking; and the skills, knowledge, and characteristics you need to develop to be successful.
- Begin to develop skills in literature analysis and scholarly writing.
- Create an initial professional web presence that you can develop during your career.
- Begin defining for yourself what the future of our field is or may be, and what your role may be in that future.

Warning! Do not deceive yourself into thinking you will know everything (or even most things) that you need to know about these topics after this course. This is a *survey* course and we will *briefly* survey many of the relevant issues in our field. After this course, you should be a “jack of all trades, but a master of none.” However, you’ll at least have a roadmap to where you can learn more in the areas you want to specialize in.

Course Policies

Course policies, assignments, and deadlines are subject to change according to our needs.

Late & Makeup Work

Due dates for assignments are listed on the calendar. A minimum 10% late penalty will be assessed for work submitted after the assignment deadline unless I have previously approved a later deadline due to extenuating circumstances. Work that is submitted over a week late will receive an additional 10% penalty for each week late. No late work is accepted after the last class meeting.

Backing Up Work

It is your responsibility to back up all of the work you do in class, saving it in at least TWO locations until you receive your final course grade. To do this you can use: 1) your required USB key drive, 2) home computer, 3) email attachments, 4) free online space (such as <http://www.box.net>), or 5) external hard drive. If you need motivation for backing up your work, ask me about the time I lost over half of my literature review to a computer failure a few weeks before my thesis was due. Ah, the memories. ;-).

Course Grading & Honesty Policy

Final grades will be calculated with the following percentages. You must complete ALL assignments to get a passing grade. You must honestly complete all the individual work yourself. If you are working within a team, you must be able to show a significant contribution to the team project.

A	A-	B+	B	B-	C+	C	C-	F
94-100	90-93	87-89	83-86	80-82	77-79	73-76	70-72	0-69

Preventing Sexual Harassment

Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex discrimination in education and pertains to admissions, academic and athletic programs, and university-sponsored activities. Title IX also prohibits sexual harassment of students by university employees, other students, and visitors to campus. If you encounter sexual harassment or gender-based discrimination, please talk to your professor; contact the Equal Employment Office at 801-422-5895 or 1-888-238-1062 (24-hours), or <http://www.ethicspoint.com>; or contact the Honor Code Office at 801-422-2847.

Writing Quality Expectation

Graduate work in our field depends greatly on the ability to communicate—whether it's communicating research findings to other scholars, design specs to an instructional design team, reports to evaluation clients, etc. Thus clean and concise writing is critical, and while this class will require a fair amount of writing, it is not a class on basic grammar or writing. It is expected that when you turn in drafts to your peers and to myself, that we will be reviewing them based on their logical structure, argumentation, interpretation, etc. If there are grammar, punctuation, or blatant writing errors, it will make it more difficult for us to give you good feedback. If the errors are too much of an impediment to understanding your paper, it will be returned to you for corrections before I can read it. Remember to use the BYU Writing Center, which is a great resource for native and non-native speakers alike! Also, if you are an international student, consider enrolling in ESL 404, which is a graduate-level writing course for ESL students.

Electronic Devices

As a courtesy to everyone, please turn off cell phones during class and use laptops only for taking notes or looking up materials relevant to our discussion. Checking email, Facebook, and other off-task sites diminishes your ability to learn and my ability to teach, and is distracting to the other learners in class.

Assignments

Course Readings

For this course we have two required textbooks and various required articles. These required readings are indicated by an asterisk (*). I have also provided additional suggested books that would be essential for an instructional technologist's library, as well as additional articles under each topic. You can skim these as you wish for each week's discussion. Eventually, you should become very familiar with nearly everything on this reading list as well as many other topics so that you can be an effective instructional technologist.

REQUIRED BOOKS

* Reiser, R.; & Dempsey, J. V. (2006). *Trends and Issues in Instructional Design and Technology* (2nd edition). Prentice Hall.

* American Psychological Association (2009). *Publication Manual*.

ARTICLES AND BOOK CHAPTERS (Bold indicates required readings)

The required readings should be on our electronic reserve. They are also easily accessible through the Library. *Educational Technology* is unfortunately not available online. I have placed most of the handbooks on hard copy reserve in the library.

Introduction

Januszewski, A.; & Molenda, M. (2007). *Educational Technology: A Definition With Commentary*. Routledge.

This book was created by leaders in AECT charged with defining the field. It is often the textbook for classes similar to ours.

Orey, M.; Jones, S. A.; & Branch, R. M. (Eds.). (2010). *Educational Media and Technology Yearbook*. Springer.

This is the yearbook for our field, listing all the programs, organizations, and so on associated with the field, as well as a few relevant articles. It's published yearly.

* Rieber, L. (1998). **The Proper Training of an Instructional Technologist**. Available at <http://it.coe.uga.edu/~lrieber/pdean/pdean.html>.

Multimedia & CAI

Clark, R. E. (1983). Reconsidering Research on Learning from Media. *Review of Educational Research*, 53(4), 445-459.

Clark, R. E. (1986). Absolutes and angst in educational technology research: A reply to Don Cunningham. *Educational communication and technology journal*, 34(1), 8-10.

* **Clark, R. E. (1994). Media will Never Influence Learning. Educational Technology Research & Development, 42(2), 21-29.**

Clark, R. E. (1994). Media and Method. *Educational Technology Research & Development*, 42(3), 7-10.

Cunningham, D. J. (1986). Good guys and bad guys. *Educational communication and technology journal*, 34(1), 3-7.

* Ely & Plomp, pp. 183-197: Keller, F.S. (1968). "Good-bye, teacher...". *Journal of applied behavior analysis*, 1, 79-89.

* Ely & Plomp, pp. 211-227: Skinner, B.F. (1958). Teaching Machines. *Science*, 128, 969-977.

Kozma, R. (1991). Learning with media. *Review of Educational Research*, 61(2), 179-211.

* **Kozma, R. (1994). Will Media Influence Learning? Reframing the Debate. Educational Technology Research & Development, 42(2), 21-29.**

Instructional Systems Design

Gagne, R. M., Wager, W. W., Golas, K., Keller, J. M. (2004). *Principles of Instructional Design*. Wadsworth.
An updated version of the classic Gagne and Briggs text.

* **Gibbons, A. S. (2003). The practice of instructional technology: Science and technology. Educational technology, 43(5), 11-16.**

* **Gordan, J., & Zemke, R. (2000). The attack on ISD. Training, 37(4), 42-53.**

Molenda, M. (2008). The programmed instruction era: When effectiveness mattered. *TechTrends*, 52(2), 52-58.

Morrison, G. R., Ross, S. M., & Kemp, J. E. (2007). Introduction to the instructional design process. *Designing effective instruction*. (5th ed.) (pp. xviii-26). Hoboken, NJ: John Wiley & Sons.

Spector, J. M.; Merrill, M. D.; Merrienboer, J. V.; Driscoll, M. P. (2007). *Handbook of Research on Educational Communications and Technology*. Routledge.

This is the handbook for our field, written by leaders in our field. Free online access to AECT members.

* **Zemke, R., & Rossett, A. (2002). A hard look at ISD. *Training*, 39(2), 27-35.**

The entire special issue. (2002). *Performance Improvement*, 41(7).

Learning Sciences

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (1999). *How people learn: brain, mind, experience, and school*. Washington, D.C.: National Academy Press. [<http://www.nap.edu/html/howpeople1/>]

Carr-Chellman, A., A., & Hoadley, C. M. (2004a). Introduction to special issue: Learning sciences and instructional systems: Beginning the dialogue. *Educational technology*, 44(3), 5-6.

Carr-Chellman, A., A., & Hoadley, C. M. (2004b). Conclusion: Looking back and looking forward. *Educational technology*, 44(3), 57-59.

Edelson, D. C. (2004). The parallel universes of the learning sciences and instructional design: A historical perspective. *Educational technology*, 44(3), 27-29.

Hoadley, C. M. (2004). Learning and design: Why the learning sciences and instructional systems need each other. *Educational technology*, 44(3), 6-12.

Kolodner, J. L. (2004). The learning sciences: Past, present, future. *Educational technology*, 44(3), 34-39.

* **Sawyer, R. K. (2006). The new science of learning. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 1-16). New York, NY: Cambridge University Press.**

* **Sawyer, R. K. (2006). *The Cambridge Handbook of the Learning Sciences*. Cambridge University Press.**

Smith, B. (2004). Instructional systems and learning sciences. *Educational technology*, 44(3), 20-25.

Spector, J. M. (2004). Instructional technology and the learning sciences: Multiple communities and political realities. *Educational technology*, 44(3), 47-49.

Psychological Learning Theory

* **Barab S, & Plucker J. (2002). Smart People or Smart Contexts? Cognition, Ability, and Talent Development in an Age of Situated Approaches to Knowing and Learning. *Educational Psychologist*. 37(3):165-182. Available at: <http://tinyurl.com/25nflc4>.**

* **Ertmer, P., & Newby, T. (1993). Behaviorism, Cognitivism, Constructivism: Comparing critical features from an instructional design perspective. *Performance Improvement Quarterly*, 6(4), 50-71.**

Driscoll, M. (2000a). Radical behaviorism, *Psychology of learning for instruction* (2nd ed., pp. 31-70). Boston: Allyn & Bacon.

Driscoll, M. (2000b). Cognitive information processing, *Psychology of learning for instruction* (2nd ed., pp. 73-112). Boston: Allyn & Bacon.

Driscoll, M. (2000c). Constructivism, *Psychology of learning for instruction* (2nd ed., pp. 373-396). Boston: Allyn & Bacon.

* Martin Ryder's collection of resources: http://carbon.cudenver.edu/~mryder/itc_data/idmodels.html

* Theory into Practice collection of resources: <http://tip.psychology.org/>

Instructional Theory

Merrill, M. D. (2002). First principles of instruction. *Educational Technology Research and Development*, 50(3), 43-59.

Orey, M.(Ed.). (2001). Emerging perspectives on learning, teaching, and technology. Retrieved July 5, 2010, from <http://projects.coe.uga.edu/epltt/>

* **Reigeluth, C. M. & Carr-Chellman, A., Eds. (2009). *Instructional-Design Theories and Models Volume III: Building a Common Knowledge Base*. Routledge.**

Silber, K. H., & Foshay, W. R. (2006). Designing instructional strategies: A cognitive perspective. In J. A. Pershing (Ed.) (2006), *Handbook of human performance technology* (3rd ed.) (370-413). San Francisco: Pfeiffer.

* Martin Ryder's collection of resources: http://carbon.cudenver.edu/~mryder/itc_data/idmodels.html

* Theory into Practice collection of resources: <http://tip.psychology.org/>

Technology Integration

Koehler, M. J., & Mishra, P. (2008). Introducing TPCK. In J. A. Colbert, K. E. Boyd, K. A. Clark, S. Guan, J. B. Harris, M. A. Kelly & A. D. Thompson (Eds.), *Handbook of Technological Pedagogical Content Knowledge for Educators* (pp. 1-29). New York: Routledge.

* **Moersch, C. (1995). Levels of technology integration: A framework for measuring classroom use. *Learning and Leading with Technology*. Available at: <http://loticonnection.com/pdf/LoTiFrameworkNov95.pdf>**

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. *Children and computer technology*, 10(2), 76-101. [online at <http://www.stanford.edu/~roypea/RoyPDF%20folder/Packard2000.pdf>]

LoTi Resources and readings: <http://loticonnection.com/articles.html>

Martin Ryder's collection of resources: http://carbon.cudenver.edu/~mryder/itc_data/idmodels.html

* **TPACK Wiki: http://www.tpck.org/tpck/index.php?title=Main_Page**

Educational Change

Reigeluth, C.M. (1992). The imperative for systemic change. *Educational technology*, 32(11),9-13.

Design-based Research

Barab, S. (2006). Design-based research: A methodological toolkit for the learning scientist. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 153-169). New York, NY: Cambridge University Press.

Barab, S., & Squire, K. (2004). Design-based research: Putting a stake in the ground. *The Journal of the Learning Sciences*, 13(1).

Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *Journal of the Learning Sciences*, 2(2), 141-178.

Cobb, P., diSessa, A., Lehrer, R., Schauble, L. (2003). Design experiments in educational research. *Educational Researcher*, 32(1): 9-13.

Collins, A. (1992). Towards a design science of education. In E. Scanlon & T. O'Shea (Eds.), *New directions in educational technology*. Berlin: Springer-Verlag.

Confrey, J. (2006). The evolution of design studies as methodology. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 135-151). New York, NY: Cambridge University Press.

* **Design-Based Research Collective. (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher*, 32(1): 5-8.**

Instructional Games

* **Rieber, L. P., Smith, L., & Noah, D. (1998). The value of serious play. *Educational Technology*, 38(6), 29-37.**

Distance Learning

* **Moore, M. G. (Ed.). (2007). *Handbook of Distance Education*. Routledge.**

Human Performance Technology

Ferond, C. (2006). The origins and evolution of human performance technology. In Pershing, J. A. (Ed.), *Handbook of human performance technology* (pp. 155-187). San Francisco, CA: Pfeiffer.

Marker, A, Huglin, L., & Johnsen, L. (2006). Empirical Research on Performance Improvement: An Update, *PIQ*, 19(4), 7-22.

Pershing, J. (2006). Human performance technology fundamentals. In J. A. Pershing (Ed.) (2006), *Handbook of human performance technology* (3rd ed.) (pp. 5-34). San Francisco: Pfeiffer.

Pershing, J. A., Lee, J.m & Cheng, J. (2008). Current status, future trends, and issues in human performance technology, part 1: influential domains, current status, and recognition of HPT. *Performance Improvement*, 47 (1), 9-17.

Pershing, J. A., Lee, J. & Cheng, J. (2008). Current status, future trends, and issues in human performance technology, part 2: models, influential disciplines, and research and development. *Performance Improvement*, 47 (2), 7-15.

Stolovitch, H. D., & Keeps, E. J. (1992). What is human performance technology? In H. D. Stolovitch & E. J. Keeps (Eds.), *Handbook of human performance technology* (pp. 3-13). San Fransisco, CA: Jossey-BAss/Pfeiffer.

- Stolovitch, H. D. (2007). The development and evolution of human performance improvement In R. A. Reiser & J. V. Dempsey (Eds.), Trends and issues in instructional design and technology (pp. 134-146). Upper Saddle River, NJ: Person Education
- Swanson, R.A. (1999). The foundations of performance improvement and implications for practice. In R.J. Torracco's (Ed.) Performance improvement theory and practice (pp. 1-25). Baton Rouge, LA: Academy of Human Resource Development and Berrett-Koehler Communications, Inc.
- Rosenberg, M. J., Coscarelli, W. C., & Hutchinson, C. S. (1992). The origins and evolution of the field. In H. D. Stolovitch & E. J. Keeps (Eds.), Handbook of human performance technology (pp. 14-31). San Fransisco, CA: Jossey-Bass/Pfeiffer.
- Rosenberg, M. J. (1996). Human performance technology. In R. Craig (Ed.), The ASTD Training and Development Handbook (pp. 370-393). New York: McGraw Hill.
- Wile, D. (1996). Why does do. Performance and instruction, 35(1), 30-35.
- Van Tiem, D. M., Mosely, J. L., & Dessinger, J. C. (2004). Performance technology - defined. In Fundamentals of performance technology. (pp. 2-20). Washington, DC: International Society for Performance Improvement.

Professional Issues

- IPSTPI ID Standards: http://www.ibstpi.org/Competencies/instruct_design Competencies 2000.htm
- Pershing, J. A., Ryan, C. D., Harlin, N. M., & Hammond, T. D. (2006). 2006 AECT membership salary survey. TechTrends, 50(5), 10-19.
- Stolovitch, H. D., E. J. Keeps, et al. (1995). Skill sets for the human performance technologist. Performance improvement quarterly 8(2): 40-67.
- American Evaluation Association. (2004). American Evaluation Association guiding principles for evaluators. Available: <http://www.eval.org/Publications/GuidingPrinciples.asp> [2006, September 5].
- Wineburg, S. (2004). Must it be this way? Ten rules for keeping your audience awake during conferences. Educational Researcher, 33(4): 13-14.

Moral Foundations

- Banaji, M. R., Bazerman, M. H., & Chugh, D. (2003). How (Un) ethical are you? Harvard Business Review, 81(12), 56-64.
- Guerra, J. A. (2006). Standards and ethics in human performance technology. In J. A. Pershing (Ed.) (2006), Handbook of human performance technology (3rd ed.) (pp. 1024-1046). San Francisco: Pfeiffer.
- * Osguthorpe, R. T., Osguthorpe, R. D., Jacobs, W. J., & Davies, R. (2003). The moral dimensions of instructional design. Educational technology, 43(2), 19-23.

Course Calendar

Week	Due Dates	Assignment DUE	Class Topics
1.1 (Roots)	Due the day before class	- Purchase your textbooks - Download and create login for Mendeley - Read Rieber, 1998, before class (it's a fun read) - Read Holt et al., in press before class (short and relevant)	- Introduction to the class - Introduction to Mendeley - Introduction to online portfolios - Introduction to group projects, journals, and organizations - You, an Instructional Technologist
1.2 (Roots)	Sept. 1	- Reiser & Dempsey, chapters 1 & 3.	- History and definition of the field - Terms, vocabulary, and subcurrents
2.1	Sept 6		NO CLASS (Labor Day)
2.2 (Roots)	Sept 8	- One of the Ely & Plomp articles - Clark OR Kozma, 1994 - Reiser & Dempsey, ch. 30	- Multimedia & CAI (teaching machines, Clark/Kozma, current media debates)
3.1 (Roots)	Sept 13	- Reiser & Dempsey, ch. 2 - Gordon & Zemke, 2000 OR Zemke & Rossett, 2002	- Instructional System Design (Gagne, ADDIE, Reigeluth, attacks, & current thinking)
3.2 (Roots)	Sept 15	- Ertmer & Dempsey, 1993 - Skim online resources (Ryder & TIP) - Barab & Plucker, 2002	- Psychological Learning Theory (Driscoll) - Behaviorism, CIP, & Constructivism - Sociocultural theory
4.1 (Trunk)	Sept 20	- Read Sawyer, 2006 (or Reiser & Dempsey ch. 5) and two chapters of your choice from the <i>Handbook of Learning Sciences</i>	- Learning Sciences
4.2 (Trunk)	Sept 22	- Read two articles from volume 44, issue 3 of Educational Technology (special issue on learning sciences and ID).	- Instead of class, attend Dr. Keith Sawyer's sessions on Friday.
5.1 (Roots)	Sept. 27	- Read 2 chapters of your choice from the Green Book - Reiser & Dempsey Ch. 7	- Instructional Theory (Reigeluth, TIP) - Review Dr. Sawyer's visit
5.2 (Roots)	Sept. 29	- Review 4 theories from the TIP database.	- Instructional theory
6.1 (Trunk)	Oct 4	- Teaching & Learning Statements - Reiser & Dempsey, Ch. 26	- Personal Instructional Theories - Journal report: JRTE
6.2 (Trunk)	Oct. 6	- Moersch, 1995 - Skim the TPCK wiki (http://www.tpck.org/tpck/index.php?title=Main_Page)	- Technology Integration - TPACK - LoTi

Week	Due Dates	Assignment DUE	Class Topics
7.1 (Trunk)	Oct. 11	- Paper outlines - Reigeluth, 1992 - Reiser & Dempsey, ch. 21	- Journal report: JLS - Educational Change - Adoption/implementation models
7.2 (Trunk)	Oct 13	- DBRC, 2003	- Design-based Research
8.1 (Trunk)	Oct 18	- Rieber et al., 1998	- Journal report: ETR&D - Instructional Games
8.2 (Trunk)	Oct. 20	- Reiser & Dempsey, chapter 17.	- Informal Learning
9.1, 9.2 (Trunk)	Oct. 25, 27	- Read a chapter from the Handbook of Distance Learning	MEETING ONLINE (Rick is at AECT---and maybe you should be too! :-) - Journal report: AJDE/DE - Topic: Distance Learning
10.1 (Trunk)	Nov. 1	- Skim Reiser & Dempsey, chapters 14-16	- Journal: PI - Human Performance Technology
10.2 (Trunk)	Nov. 3		- Human Performance Technology
11.1 (Branches)	Nov. 8	- Annotated Bibliographies - Letter Home - Pershing et al. (2006). - Reiser & Dempsey (one chapter from either 18, 19, 20, 22, or 23).	- Careers & currencies
11.2 (Branches)	Nov. 10	- Stolovitch & Keeps, 1995 - Reiser & Dempsey ch. 24, OR 25 & 27	- Report on job analysis - Personal skills assessment
12.1 (Branches)	Nov. 15	- Interviews with a professional (can be done ahead of time)	- Report on interviews
12.2 (Branches)	Nov. 17		- Online Professional Portfolios - Sketch your design
13.1 (Branches)	Nov. 22	- Drafts of papers due to peers	- Google Sites/Wordpress Workshop
13.2 (Branches)	Nov. 24		NO CLASS (Thanksgiving)
14.1 (Branches)	Dec. 1	- Wineburg, 2004	- Professional networks - ITForum - Submitting/attending conferences
14.2 (Branches)	Dec. 6		- Internships, research/teaching assistantships
15.1 (Branches)	Dec. 8	- Reiser & Dempsey, ch. 32 - Gibbons, 2003 - Professional portfolios (can be done ahead of time)	- Redefining the field

Week	Due Dates	Assignment DUE	Class Topics
Final	Dec. 15, 2:30-5:30	- Osguthorpe et al. (2003). - Final draft of papers & presentations	- Moral Foundations