Candace McEnespy
Boise State University
EdTech 504
15 March 2012

Instructional Design Theories and Models as they relate to Educational Technology

The purpose of this collection is to examine a variety of design theories and models as they relate to educational technology. As an Instructional Designer, it is important to have an understanding of a variety of theories and models, as well as how they fit into the overall picture of education. These resources provide a good cross section of a variety of research based models and theories and their application in a variety of settings.

Barab, S., Pettyjohn, P., Gresalfi, M., Volk, C., & Solomou, M. (2012). Game-Based Curriculum and Transformational Play: Designing to Meaningfully Positioning Person, Content, and Context. *Computers & Education*, *58*(1), 518–533.
These authors examine an instructional design theory centered around the theoretical application of transformational play called Quest Altlantis (QA). The authors make the claims that students what they name the game-based unit report higher learning gains, higher levels of engagement, have different learning goals, and that this curriculum can succeed in an actual classroom. The curriculum utilized technology, focuses on inquiry scenarios, and utilized content to help students solve socially meaningful problems. The authors frame QA within the theoretical framework of transformational play. Their explanation of this component is essential in understanding the context in which QA is placed and is successful, and the author's explanation is helpful in gaining an understanding of the model. Essentially, the core elements of the program are context, content, person, legitimacy, intentionality, and consequentially. The methods explanation that the authors offer is also in-depth and extremely useful to anyone seeking to apply this to their own instructional design practices. I think that this model offers a great alternative to the traditional classroom and that the authors do a great job of providing methods, assessment, resources, and data to back up their strong claims as to it's effectiveness. I think that this model would serve very well in the right setting and that this article/study provides a great jumping off point for it's adoption.

Evans, M. A. (2011). A Critical-Realist Response to the Postmodern Agenda in Instructional Design and Technology: A Way Forward. *Educational Technology Research and Development*, *59*(6), 799–815.

This article reveals weaknesses in the constructivist position of instructional design and instead presents a critical-realist perspective that the authors claim is more innovative in the discovery of scientific knowledge using technology. The claim is that as a "scientific venture," instructional design and technology must be more public and transparent in warrants, claims, and discoursed in order for their to be change. The authors begin by discussing the weaknesses of the postmodern views as their inability to clarify views in relation their stances. The paper considers the views of the postmodern agenda and challenges them for the purposes of advancing the dialogue and then they give a counter view for the reader to consider. Additionally, the authors seek to establish and discuss what the postmodern movement of education promotes and critique the three central stances within the agenda while providing an opportunity for the reader to consider the stances of the critical-realist perspective. This article provided a good insight into a couple of theories as they relate to education and technology. The information was well laid out and insightful and helped me to gain a better understanding of the constructivist views as

they relate to education.

Gustafson, K. L., Branch, R. M., ERIC Clearinghouse on Information & Technology., & United States. Dept. of Education. (2002). *Survey of instructional development models*. Syracuse, N.Y.: ERIC Clearinghouse on Information & Technology.

This extensive text offers an overview of many different instructional design models. I found it to be very informative and helpful in my research about Instructional Design. It also supports my belief that the more I can learn about the various instructional design models and theories, the better instructional designer I will be. I enjoyed reading about the wide variety of models as well as thier applications and I think that this text helped me greatly in my understanding of the instructional design process, principles, and theories. This text is highly recommended for anyone seeking to gain a greater understanding of ID.

McKay, E., & Vilela, C. (2011). Corporate Sector Practice Informs Online Workforce Training for Australian Government Agencies: Towards Effective Educational-Learning Systems Design. *Australian Journal of Adult Learning*, *51*(2), 302–328.

This is a fascinating article that examines the barriers in adopting web training in the corporate and government sectors. The authors examine the reasons for the negative attitude towards the web-based trainings and then provides research-based reasons for instructional designers to improve distance based learning programs. The authors implement a critical analysis of the training procedures and then provides reasons why the training is not viewed in a positive manner. The researches also worked to identify the barriers to the web based learning among these workers. They identified a lack of time, a lack of relevant content, a lack of training effectiveness, and technical issues as the major barriers. In the end, the authors provided tools and suggestions for the implementation and instructional design of web based learning for corporate workers. This article proved to be both fascinating and useful. In my research and education I would be remiss to focus entirely on the K-20 education component of Instructional Design. This paper afforded me the opportunity to examine a real-life corporate application of the importance of good, quality Instructional Design. I learned a lot about the differences that a corporate instructional designer might face in applying the ID theories and models. This was very useful and practical article.

Merrill, M. D. (2007). A Task-Centered Instructional Strategy. *Journal of Research on Technology in Education*, *40*(1), 5–22.

This paper, by M. David Merrill, explores an instructional design theory that is task centered, rather than the more traditional problem based approach that is common in instructional design. This author identifies his approach as the Pebble-in-the-pond approach and outlines it's components and strategies in the paper. Merrill begins his argument for his less traditional task-based approach with a review of the more popular problem-based approach that has been utilized by instructional designers. The explanation of the history of the problem-based approach and it's weaknesses provided an informative and essential introduction into his arguments for utilizing a task-based approach in instructional design. This paper describes an integrated approach for students to solve real world, authentic task while automating some of the instructional design process. The author does an excellent job of describing the "steps" which the process takes. These include: task centered, activation, demonstration, application, and integration. He does a good job of pointing out the differences between a traditional instructional design model and this one, which helped me to make connections and think about how I could

apply this model to my own instructional design process. I think that this model is an excellent model that I would implement in my own process. I enjoyed the way the article was laid out in a very clear and concise format that led me to understand the process in a very practical way. This model is a very well thought out model that would have it's use in many instructional design settings.

Reiser, R. A. (2001). A history of instructional design and technology: Part II: A history of instructional design. *Educational Technology Research and Development*, *49*(2), 57–67. doi:10.1007/BF02504928

This article, written by Robert Reiser is the second in the series that discusses the history of the field of instructional design and technology. Dr. Reiser is an expert in the field of instructional design and technology and has written many papers discussing the history, implications, and future of these fields. This article begins with a review of some of the key points that Dr. Reiser covers in the first article of this series, which I found to be helpful as he began to discuss the main subject of this article. Reiser identifies the six categories off activities related to Instructional Design (analysis, design, development, implementation, evaluation, and management). This was interesting to me because in other Instructional Design classes, this has been referred to as the ADDIE Model, only without the management component. The author then launches into his discussion and outline of the history of Instructional Design, including important trends and movements within it's development into what it is today. I find this to be fascinating and essential in my development as an Instructional Designer because I believe it is as important to know the history of something as it is to know the current trends as well as the future trends. In doing research on this topic, I appreciate that Reiser has written articles about each of these topics as it relates to Instructional Design. Overall, this was a very informative, useful, and well written article that helped me to understand the history of Instructional Design as well as the theories and practices that have helped shape the field of Instructional Design as we know it today.

Tam, M. (2000). Constructivism, Instructional Design, and Technology: Implications for Transforming Distance Learning. *Educational Technology & Society*, *3*(2), 50–60.

Maureen Tam draws connections between the theoretical principles of constructivism, online (or hybrid) class design, and distance education in this article. She examines how the constructivist theory and technology work together in distance learning. The author did a great job of addressing the basic premises of the Constructivist model by examining the main tenants that the model holds in regards to what learning is, what the learning process is, what the teachers role is, and what the teacher does to carry out their role. I found this section to be a very helpful and insightful overview of exactly what Constructivism is. This was an important section as it provides the basis for the rest of the paper. In the following section, Tam seeks to compare and contrast other design models with the the Constructionist design model. I found this to be helpful because when the author provides information about other models, it is easier to draw the comparisons and make the connections between the models. In other words, it is easier to utilize my knowledge of one model over another when I can clearly see how one is different from the others. Additionally, I think that as a new Instructional Designer, it is helpful to me to learn about as many design models and theories as possible so that I can synthesize the information into something that works for me. In her discussion of Constructivism as it relates to technology, Tam made important connections between the tool that technology offers and the tools that Constructivism offers in support of these tools in the forms of methods and principles. In addition to these points, the author was very effective in pointing out how the Constructivist views can apply to distance education, as well as their weaknesses. No theory or model is

without it's weaknesses and it is my belief that when these weaknesses are included in a discussion, the argument for the use of that model or theory is strengthened by the reality of it's limitations.