The Many Hats of an Instructional Designer: The Development of an Instructional Card Game

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As instructors of introductory instructional technology courses at our respective universities, we are frequently confronted with a common question: "What exactly is an instructional designer?" Recently accepted students into our instructional technology degree programs often ask this question, although it is posed by some of our more advanced students as well. To tell you the truth, even we as instructors ask ourselves this question, and often encounter the same question from our colleagues, and even from our families (see Pershing, Molenda, Paulus, Lee, & Hixon, 2000).

For example, when we meet new people in a social situation, such as at a holiday party or summer picnic, we face questions such as, "So, what do you do for a living?" We try to be informative, yet simultaneously vague. We test out an answer: "I teach at a university." However, this answer usually does not suffice. We are probed further: "What do you teach?" Without too much difficulty, we respond: "I teach instructional technology." There is usually a five-second silence followed by an "oh" and then the seemingly age-old question, "What is instructional technology?" In the back of our minds, we knew it would come to this. And it is, of course, at this point that we are now faced with a significant choice. Do we tell this individual our quick-and-easy answer: "Instructional technology involves computers in education," or because we do not want to be confused with information technology or computer science, do we go into it a little deeper? We could even give a lengthy, comprehensive instructional technology definition (see Ely & Plomp, 1996) that involves concepts such as "soft technology," "prescriptive solutions," and "front-end analysis"?

If we as faculty have a tough time describing what we do, imagine the difficulty that a new student entering the field has when trying to figure out just what this "instructional technology" thing is.

Many of us have taken what seems to be the logical first step and looked at the Seels and Richey (1994) definition in an attempt to answer this question. However, it is our experience (and that of many others to whom we have talked) that this text is not written for the beginning student. Rather, it is written more for the professional in the field, thus limiting its usefulness as an introductory text. We felt that something else was needed, something that students in the first week of their graduate program could do to better appreciate the program they were just starting. Further, we hoped that whatever this would be, it would also help the advanced student gain needed perspective into what they would soon be doing professionally.

A Core Competency: Instructional Design

What exactly can we tell our students? One approach would be to focus on the major responsibilities or core competencies of instructional technologists. One of the essential responsibilities of an instructional technologist is to *design* instruction. In fact, if we take a look at ISPI and AECT's job bank Web sites, we will find a majority of the instructional technology jobs that instructional technology graduates can apply for are "instructional design and development." A common element of these job descriptions is the need for instructional *design* knowledge. One contention of this article is that design, particularly instructional design, is one of the core competencies of an instructional technologist.

Yet if we think about it, there are conflicting qualities of an instructional designer. Smith and Ragan (1999, p. 2) compare instructional designers to being engineers and note that they "both try to design things that are not only functional but also attractive or appealing to the user of the product." David Jonassen comments that instructional design is complex and interrelated. It draws upon an ill-structured knowledge domain (Jonassen, 1998, p. vii). Kemp, Morrison, and Ross (1998, p. ix) write that instructional design is eclectic, flexible, and adaptable. Others have posed alternatives to the instructional design process, such as an emphasis on the process and spiral design cycles (Cennamo, Abell, & Chung, 1996), as well an alternative design model based upon constructivist learning principles (Willis, 1998; Willis, 2000; Willis & Egeland, 2000). Drawing upon a variety of disciplines (e.g., learning, communications and systems theories), instructional designers must use "a set of highly

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interrelated behaviors involving extracting, analyzing, organizing, and synthesizing information " (Seels & Glasgow, 1998, p. 1). In addition to all of these qualities of being an instructional designer, we realize that we prescribe instructional heuristics based upon a systematic manner that will consistently produce efficiency and effectiveness (Dick, Carey, & Carey, 2000; Kemp, Morrison, and Ross, 1998, p. 229; Romiszowski, 1981).

Designer Archetypes

To better understand what it means to be an "instructional designer," we propose five instructional designer *archetypes*. Each of these archetypes ("Designer as Problem Solver," "Designer as Artist," "Designer as User," "Designer as Counselor," and "Designer as Performer") outlines a different set of core competencies for an instructional designer. We discuss how these designer archetypes affect the instructional technology discipline. After this discussion, we summarize an instructional game that is based upon these archetypes.

Designer as Problem-Solver: Each design event initially entails a problem that requires a solution. A designer must utilize his or her "detective" or front-end analysis skills to come up with an appropriate solution. Similar to a car mechanic diagnosing a client's rattle in a car, both the mechanic and designer must employ problem-solving skills and develop a strategy to come up with an effective, prescriptive solution. In addition to being a problem-solver, designers must utilize negotiating skills to successfully integrate the client's original design problem and the obtained users' perspectives. Often, this negotiation is built into the design strategy. This problem-solver archetype is probably recognizable by most instructional designers (e.g., Dick, Carey, & Carey, 2000; Seels & Glasgow, 1998; Smith & Ragan, 1999). Problem-solving and applying these "detective" skills are the essence of front-end analysis and formative evaluation.

Designer as Artist: Though most designers follow design models, one must exercise his or her creativity to develop an effective product (Rowland, 1995). This added ingredient initiates the process of proposing potential solutions to seemingly ill-structured design problems. A recent study (Sugar, 2001) found that novice designers specifically lack the creative understanding of proposing innovative solutions. It is imperative that entry-level instructional designers not only are taught the basic steps of the instructional systems design model (e.g., Dick, Carey & Carey, 2000), but also are given examples of how to integrate creativity in one's design solutions. This gives credence to this *designer as artist* archetype, and it also uncovers a tacit quality that instructional designers as well as other designers bring to their work. In fact, there is some art in creating an effective instructional design without discounting the systematic approach. It seems likely that an effective instructional module is dependent on at least one creative wake-up call at 3 a.m.

This type of insight is documented in creativity literature. Experienced designers go beyond the ISD model and apply their own creative experiences and insights. Walt Dick (1995) notes that the systematic instructional design model is to teach novices how to perform each instructional design step, "while experienced designers use it holistically—they continually view the entire process, sometimes performing several steps at the same time, sometimes omitting a step" (p. 23). He continues to say that we need a balance where instructional designers "must be creative in identifying and solving a problem within the parameters of the client's context, not ones superimposed by the designer" (p. 23).

This brings up an oxymoron—or at least tension between what it means to be a designer and an artist—and points out the need to acknowledge the integration of creativity in one's designs. While it may be advantageous for beginning instructional technology students to learn about the instructional design process in a systematic manner, it is important to emphasize this creativity characteristic during the learning process. Alternative ways on how to teach instructional design have been proposed (e.g., Rowland, Parra, & Basnet, 1994), especially the use of the case study method (e.g., Carr-Chellman, 1999; Ertmer & Quinn, 1999; Kinzie, Hrabe, & Larsen, 1998). The case study method is an excellent way of introducing novices to the "designer as artist" archetype.

Designer as User: If we accept the iterative design, rapid prototyping, "know your user" approach and we believe that designers must test their designs "early and often" (Nielsen, 1993), then this archetype becomes more prevalent and bolder in our design practice. A critical element in discussing the role of the designer is to address the other actor in this relationship: the user. Without the user, a designer cannot exist. That is, it is virtually impossible for a designer to design in isolation. The illustration for this designer as user archetype is where the designer and the user are blended into each other. Similar to the Roman God, Janus, a designer must have two faces and be able to see both directions. In this archetype, designers strive to understand and empathize with their users and ultimately become their users.

Reigeluth and Nelson (1997) concur with the "Designer as User" archetype and suggest a new paradigm of the instructional systems design (ISD) model. They propose that the ISD model puts more emphasis on involving *all* "stakeholder" groups through detailed visioning activities and adopt the role of the user-designer (Banathy, 1991; Carr, 1997). This

intiative for understanding the user and client better amplifies the role of the "designer as user" archetype.

Designer as Counselor: If the designer as user archetype is accepted in our design practices, then another archetype, *designer as counselor,* also needs to be adopted. That is, to develop and to maintain a successful relationship between designers and their users, one must develop empathic understanding. To cultivate this type of understanding, one can borrow strategies from the counseling discipline and integrate these strategies into one's design practices. Designers would benefit from applying counseling techniques to effectively evaluate the relationship between users' reactions and determine appropriate changes to their prototypes. Basic counseling skills include "listening actively to the other person's feelings, focusing on their problem rather than on our own immediate concerns, and being accepting and uncritical" (Dryden, Charles-Edwards, & Woolfe, 1989, p. 4). Counseling aims and techniques enable designers to understand their users' particular situations. Though the counselor and client relationship and the designer and user relationship are not identical, the common goal of understanding a client or user's perspective remains the same. By accepting this additional archetype, essentially the designer has two major roles to play: one as a creative problem-solving strategist and another as an empathic counselor. Too often, designers get caught up into the creation of a particular design and not in evaluating it through an empathetic perspective. Designers can benefit from consciously separating these two aspects and give credence to both (Sugar, 2001).

Designer as Performer: Designers, in order to satisfy their "audiences," must be willing to make adjustments to their projects. This ability to conceive of an alternative strategy is necessary for designers to deal with the nuances of their clients' needs. As Shambaugh and Magliaro (1997, p. ix) note, instructional design is "dynamic, systematic, iterative, and frequently non-linear in practice." Depending on the context of the particular design problem, designers must be able to compromise design principles and have the ability to come up with alternative strategies, while trying to enjoy the job and to make learners comfortable and even to have fun while they are learning.

Purpose and Development of an Instructional Game: "The Many Hats of an Instructional Designer"

Based upon these designer archetypes, we decided to develop an instructional card game. The purpose of this game was to expose students to major responsibilities of an instructional designer and to give these students insights into what exactly an instructional designer does. The game, if used properly, serves as a mechanism through which students gain a better understanding of what an instructional designer does, not only through playing the game, but also through follow-up activities that tie in the roles of an instructional designer with their own experiences.

There were two main developmental phases of this game, as described in Betrus, Sugar, and Rixman (1999). The first phase was the original development of the game in a graduate seminar on simulations and games. The students in this course offered formative feedback into the game itself, especially including the mechanics of how the game would be played. The second phase was to determine the effectiveness of the game by using it in "Research and Theory in Instructional Technology," a graduate course that serves to introduce the student to the field by providing a broad overview of the field.

Students played the game on the first day of class. Fundamentally, the game served to expose them to the various responsibilities that an instructional designer can take on, depending on the situation at hand. After playing the game, the students were given the task of describing two anecdotes that epitomized one of the 20 attributes of an instructional designer. They were asked to post a description of a real situation in which they were involved where one of the participants (hopefully the student) had to take on one of these roles. Each of the students posted their response on a Blackboard discussion forum. Students then read each other's responses, and responded to them (see Table 1 for some examples of these descriptions). The discussion continued into the second class session. In this way, students began to understand the roles of an instructional designer as it related to their own and their peers' experiences.

Later, at the end of the semester, they played the game again. At this point they were asked to evaluate the game itself, to offer feedback on game play, suggestions for changes in any of the cards, or anything that would help towards the intended goal of the game: to give students an understanding of what an instructional designer does.

Based upon this initial development and evaluation, the game was modified, and then produced on a small scale. Each deck consists of five *Archetype* cards, 20 *Attribute* cards, and 20 *Elaboration* cards. In total, "The Many Hats of an Instructional Designer" consists of 45 cards. There are five *Archetype* cards: Artist, User, Problem Solver, Counselor, Performer; 20 *Attribute* cards (there are four *Attributes* per *Archetype* card), and 20 *Elaboration* cards (there is one *Elaboration* card for each Attribute card) (see Table 2).

Briefly, the game is a matching game, where two teams compete in matching the cards. In the first-round play, alternates with players attempting to match the 20 *Attribute* cards with the five *Archetype* cards. In the second round, players attempt to match the 20 *Elaboration* cards with corresponding *Attribute* cards.

Table 1. Students' descriptions of situations in which they played a role similar to one of the 'hats' of an instructional designer.

Cards for which description was based	Description
Archetype—Designer as Problem Solver **Attribute**—Fix the problem, not the symptoms **Elaboration**—Make sure to get to the root of the problem.	Much time and effort is lost if the wrong thing is fixed. The easiest fix does not always address the *root* of the problem. I am reminded of a project whereby the ER time was thought to be too long in treating patients. A team was formed and it was decided that lab work was not getting to the lab fast enough. An expensive pneumatic tube system was purchased and when re-monitored, the times of treatment were even longer. The team misidentified the root cause.
Archetype—Designer as Artist **Attribute**—Turn the basic into the unique **Elaboration**—Take what you are given and make it something special	Over the past years since undergraduate school, I have worked as a school band director at a small rural school, each year with experienced students graduating, and newer inexperienced students coming into the program. Every year there would be changes in the strengths and weaknesses of the different sections. And every year I would have to utilize the resources I had, and adapt my planning and selection of materials in order to get the best performance from the group.
Archetype—Designer as User **Attribute**—Obtain multiple perspectives **Elaboration**—Get input from a wide variety of people	I am a high school math teacher in a district where we are sampling different programs to use to record our grades. There are three programs we are evaluating. There are teachers who have volunteered from all different grades and subjects to test the software. Therefore, as a district we are obtaining multiple perspectives. The end result is going to be one (possibly two) grading programs that the teachers will use district-wide.
Archetype—Designer as Counselor **Attribute**—Develop and maintain a trusting relationship **Elaboration**—If people can confide in you, it will make your job easier.	I organized an American Heart Association Heart and Stroke Support group and was the Director for nine years. It was a wonderful but demanding experience. I had to develop and maintain a trusting relationship with the many heart and stroke patients who attended the meetings. I became a very good, empathetic, and understanding listener. The long hours were very rewarding, and I feel they gave more to me than I did them.
Archetype—Designer as Performer **Attribute**—Motivate with humor **Elaboration**—People will learn more if they are comfortable and having fun	Being a student for many years I noticed that I tend to pay more attention, and in turn, learn more from teachers that interest me. I often find that a teacher who is humorous is very interesting and fun to listen to. Therefore, when I student-taught, I had a tendency to include humor in my teachings. It was my hope that since humor was a good motivator for me, that it also would be so for my students.

Using the point system is optional, although in most cases the students favor using the system for motivation. See Table 3 for additional game instructions.

Implications and Future Directions

This is one attempt in coming to grips with understanding the core competencies of an instructional designer. It is intended that by playing the game, students' understanding of designer archetypes, and ultimately their understanding of the field, will be enhanced. We intend to continue our development of the card game, "The Many Hats of an Instructional Designer," through feedback from instructors and students using it in practice. This process has already begun, with early versions of the game distributed to attendees of the original conference presentation of the game. Feedback from these instructors, and from future instructors using the game, will be used to improve its effectiveness. While this game may help instructors and students in instructional technology programs, it may not help you when your good friend from high school, whom you have not seen in 20 years, asks you what you do for a living—unless you happen to have the game handy. □

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Table 2. Archetype, Attribute, and Elaboration cards used in "The Many Hats of an Instructional Designer."

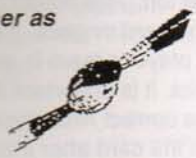
Archetype Cards	Attribute Cards	Elaboration Cards
Designer as Problem Solver 	Develop a strategy	Determine what steps need to be taken
	Use analysis skills	Like an auto-mechanic, first find out what's broken
	Fix the problems, not the symptoms	Make sure to get to the root of the problem
	Be effective and efficient	Do what needs to be done using the fewest possible resources
Designer as Artist 	Develop a variety of solutions	Use models a launch platform to develop multiple possible answers
	Develop creative solutions	Don't just do it, do it with style
	Deal with ill-structured problems	Be prepared to make sense of confusing situations
	Turn the basic into the unique	Take what you are given and make it something special
Designer as User 	Obtain multiple perspectives	Get input from a wide variety of people
	Test designs early and often	Don't wait until the last minute to see if it will work
	Use diverse evaluation methods	Conduct one-to-one, small group, and large group feedback sessions
	Determine the contextual factors	Find out what the environmental influences are, including setting and climate
Designer as Counselor 	Be a good listener	Hear what people are saying
	Be empathetic and understanding	Be responsive to peoples' feelings
	Develop and maintain a trusting relationship	If people can confide in you, it will make your job easier.
	Be accepting and uncritical	Take in all information, positive and negative, without being judgmental
Designer as Performer 	Satisfy your audience	Make every effort to meet the needs of your clients
	Keep options open—be flexible	Don't get stuck in any one way of thinking with only a few alternatives
	Be prepared	Be ready for anything
	Motivate with humor	People will learn more if they are comfortable and having fun

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Table 3. Instructions on how to play "The many hats of an instructional designer."

Activity	Instructions
Introduction	There are two rounds in each game and players are separated into two teams. Players seat themselves at the table, with players from opposite teams alternating seats.
Pre-game activity (optional)	Take the deck, shuffle it, and spread all of the cards on the table in front of both teams. Assign them the task of "sorting" the cards. This takes approximately 15–30 minutes. Give no other instructions. They will soon discover that the sorting has everything to do with the graphics on the cards. This varies from group to group. Gentle hints that the graphics are important may be needed for some groups.
Round 1	–During Round #1, the five Archetype cards are spaced out evenly on the table. –A player from team 1 begins by randomly choosing one of the cards from the shuffled Attribute stack (the Elaboration cards are not used until round 2). –The card is then read aloud (but not shown) to the player to her left. This player can then choose to match the Attribute card to the appropriate Archetype card or pass. If the player chooses the correct Archetype card (correct match), then that player's team is awarded 1 point. If the player chooses incorrectly, her team loses one point. It is important that after each incorrect guess the reader does not place the card on the correct Archetype, as other players will have a chance during that turn to attempt to match the card after it is answered incorrectly. In the case of an incorrect guess, the next player to the left (who is on the opposite team) can then choose to attempt to match the card or pass. This process continues until the card is matched, or all players have passed. At the end of the turn, the card should be placed with the correct Archetype, either by a correct match or everyone passing. –Play continues in a clockwise fashion (regardless of passes, correct, or incorrect answers, the reader will be the person to the left of the reader from the previous turn). –Play continues until all Attribute cards have been played. –Points for Round #1 are as follows: 1 point for each correct Archetype-Attribute match; –1 point for each incorrect Archetype guess; and 0 points for a pass.
Round 2	–Play during round #2 is identical to round number #1, except that the Elaboration cards are matched to the Attribute cards. In round 1, there were only 5 choices (the five Archetype cards). In round 2, there are 20 choices (each Elaboration card corresponds with one of the Attribute cards placed on the table in round #1). –The point system is somewhat different as well, as there are two possible ways to make a correct match: 1) The player attempts to match the Elaboration card to the correct Attribute card. If the match is exact, the player's team is awarded 2 points. It is also possible, however, that the player chooses to match the Elaboration card to an Attribute card that is not exactly correct, yet they have chosen the correct Archetype category. In this case, the card is placed on the correct Attribute, and the player's team is awarded 1 point. If the player guesses completely wrong (wrong Attribute; wrong Archetype), that player's team loses one point, and play continues to the left until a correct match is made or all players pass. –The team with the most points at the end of round 2 is the winner; however, the instructor should have a class goal of all teams finishing with positive point totals, and also emphasize that it is the discussion and follow-up activity that is the most important aspect of the game.
Post-game activity	Have each of the players select one or two attributes of an instructional designer that they have taken the role of. Have them describe what they did when wearing this "hat" via an online discussion forum (newsgroups, discussion boards, etc...). They should then read and respond to other students' anecdotes. Discuss the anecdotes that the students described during the following class session. This is by far the most valuable part of the activity, as it should be. The game itself is simply a frame from which to build and organize this discussion.

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