Challenges of Being an Instructional Designer for New Media Development: A View from the Practitioners

MIN LIU, SCOTT GIBBY, ONDREA QUIROS, AND ELAINE DEMPS

University of Texas-Austin
USA
mliu@mail.utexas.edu

Students studying the field of instructional design, and soon-to-be practicing instructional designers, often learn about the field through well-planned curricula that is comprised of coursework of theoretical foundation and valuable hands-on experience. What they cannot obtain through this coursework, however, are the challenges today’s instructional designers face in an environment where new media technology changes at a rapid pace and where technology can drive the design. This article reports a study conducted with 11 practicing instructional designers at varying stages of their career in new media development to ascertain (a) what their responsibilities are, (b) what challenges they face, (c) how they meet those challenges, and (d) what skills are important for being an effective instructional designer. This article is intended to bring awareness to not only students, who will soon become instructional designers, and their teachers but also to those in the field who may be confronted with similar challenges.

The rapid changes in the field of technology are redefining the process of developing technology-enhanced educational materials as well as the roles of developers involved in the process. As educators whose responsibility it is to prepare future designers and developers using new media, and as students who are about to enter the field of instructional design, we must continually update our knowledge and be aware of these changes. In our previous research (Liu, Jones, & Hemstreet, 1998), we looked at the multimedia design process, and the different roles involved in the process from a practitioner’s perspective. In this study, we chose to focus on the role of an instructional designer, one of the key players in new media development.
We looked again to practitioners in the field to find out how their roles are defined, how they handle their job challenges, and how they adapt to the frequent changes in technology and market demands.

THEORETICAL PERSPECTIVE

Defining an Instructional Designer

Recent advancement in the Web and multimedia technology is changing how we teach and train people. As technology becomes more integrated within the daily activities of business and education, the need for people who can use new media to train or educate has grown exponentially. It is estimated that “the worldwide corporate e-learning market will exceed USD23 billion by 2004”, with North America accounting for two-thirds of these revenues (NUA Internet Surveys, 2001, p. 1) However, recruiters say that it is difficult to find people who not only have the technological skills, but also understand how to use those skills to reach an audience: “It’s a very unique combination...those people are worth their weight in gold” (Kiser, 1999, p. 19). The need for developing new digital materials or converting from the traditional media calls for instructional designers as an essential part of the development team.

Instructional design refers to “the systematic process of translating principles of learning and instruction into plans for instructional materials and activities” (Smith & Ragan, 1993, p. 2). One of the primary tasks of an instructional designer is to plan the instruction so that the student can use cognitive strategies to learn the material actively (West, Farmer, & Wolff, 1991). The term “instructional designer” is less familiar outside the field of instructional technology. Instead, one hears job titles such as industrial designer, curriculum developer, learning specialist, instructional technologist, or sometimes even project manager. Yet, people in these titles are often carrying the responsibilities of an instructional designer, especially if they are involved in developing new media-based instructional products. For some people, “instructional designer” does not say enough; “‘multimedia producer,’ ‘webmaster,’ ‘developer of online learning’-these are much more muscular phrases”(Ganzel, 1997, p. 14).

The reality that an instructional designer might be called upon to get involved in different phases of producing an educational product could spark this confusion. As such, the instructional designer must understand the needs and wants of the client, the objective and the audience of the finished
project, the capabilities of the programmer, graphic artist, and available tools; and must have design and project management skills (Liu, Jones, & Hemstreet, 1998). Job titles other than instructional designer reflect recent technological changes and new trends for creating instructional materials. If a person performing the role of an instructional designer is developing online courses, he or she may be classified as an online learning developer. Regardless of the job title, the role of an instructional designer “depends on the project, the composition of the team, and the skills of the team members. It’s kind of a virtual job title for a very real job” (Jopson & Smith, 1997, p. 3). Since the role of an instructional designer has outgrown traditional textbook definitions, the perspectives of practitioners in the field will provide the information needed to accurately assess the evolving responsibilities of an increasingly popular position.

New Expectations of an Instructional Designer

Like the technology a designer learns to manipulate, the requirements of an instructional designer are also evolving to encompass new possibilities, both tangible and theoretical. According to Zielinski (2000), “instructional designers now need to know how to design for many more media alternatives” while deftly incorporating “hybrid learning models” (p. 32).

The process of new media development for education is often compared to the making of a movie, with the role of the designer likened to that of a film director (Jopson & Smith, 1997; Stein, 2001). This is an apt description, especially when confronted by the reality that learners, especially adult learners, are now considered “consumers” by those who would sell the service of education (Jarvis, 1999; Wagschal, 1998). Similar to the director of a movie production, instructional designers look for innovative ways to attract their audiences using the best in new media technology. Perhaps an even more appropriate metaphor would be that of a conductor since an instructional designer must somehow go beyond engagement, and combine the elements of audience, objective, ability to compromise, imagination, new technological possibilities, and talent constraints into a single symphony of an engaging and educative experience.

These symphonies of experience can have powerful influences, and it is with respect to this power that instructional designers must also be more aware of hidden messages in their products reflecting gender or cultural bias. Therefore, instructional designers must now also consider gender issues when selecting clip art (Binns & Branch, 1995) and design requirements
Mishra and Zhao (1999) reminded us that “at the heart of design is the idea of dialogue: dialogue between theory and practice, between constraints and tradeoffs, between a designer and his or her materials, between the designer and the user or learner” (p. 221). These basic design issues remain unchanged through the various evolutions an instructional designer undergoes. However, the challenge of being an instructional designer does not only lie within the dialogue of design. It also rests in the pace of technology where, if the designer does not keep up, the dialogue can become an unproductive monologue.

The job market for instructional designers looks promising. While many students are interested in this field, few know what instructional designers are, what they actually do, the challenges they face, and the skills they need. Such practical information is difficult to find in traditional textbooks. Altschul and Zarrow (1997) asked the question, “How do you educate students in a field where the technology changes virtually on a daily basis?” (p. 58). Practitioners are the best resource to explain the challenges of entering and succeeding in the field of instructional design. Therefore, we are turning to the practitioners to provide this information for students who want to enter the field.

**PURPOSE OF THE STUDY**

The purpose of this study is to learn from the practitioners the roles and responsibilities of an instructional designer in developing new media enhanced instructional materials. We are particularly interested in the challenges designers are facing and how they handle these challenges. We hope the findings will provide useful and practical information to students who are about to take on the responsibilities of an instructional designer. Our guiding research questions were:

1. What are instructional designers’ responsibilities in the field of new media?
2. What challenges do instructional designers face?
3. How do instructional designers meet these challenges?
4. What skills are important for being an effective instructional designer?
METHOD

About Interviewees and Procedure

To answer the research questions proposed, we interviewed instructional designers working at various multimedia companies in Austin, Texas which has major technology companies such as AMD, Apple, Dell, IBM, MCC, Motorola, Samsung, Texas Instruments, as well as many smaller technology companies. In addition, Austin has a very strong multimedia community supporting large award-winning companies as well as small start-ups.

Using the multimedia directory compiled by the Texas Governor’s Office of Music, Film, Television, and Multimedia Industries, we identified a list of multimedia companies in the Austin area. We selected companies that produce multimedia educational or training programs, and excluded one-person companies. Since we were interested in the role of an instructional designer, we limited the selection of interview subjects to those who shoulder the responsibilities of instructional designers. Through our contacts and the multimedia directory, we selected and secured 11 subjects who met our criteria and were available. A total of 11 interviews were conducted with these individuals. These interviews ranged from 45 minutes to two hours. Most of the interviews were conducted face-to-face, however two occurred online and one was conducted by phone.

All 11 interviewees were actively engaged in instructional design at the time of the interviews. Eight were female and three were male. One designer had a doctoral degree. Eight designers had a master’s degree and two had a bachelor degree. The backgrounds of these interviewees ranged from instructional technology to learning sciences, from biology to English and literature, from theatre arts to radio, television, and film, and from education to journalism. Some had as many as 20 years of experience in designing and developing multimedia products while others had as few as just one year. Some designers worked for large technology companies while others worked for small multimedia shops. It was our hope that by looking at the designers working in different settings, we could gain a thorough understanding of the common challenges they face.

The Development of the Interview Questions

The development of the interview questions began with a survey to the graduate students enrolled in the Instructional Technology Program at the
University of Texas - Austin. The survey’s purpose was to identify the information and tips that future instructional designers wanted from the practitioners. We also modified and selected relevant interview questions from our previous research (Liu, Jones, & Hemstreet, 1998), which examined the multimedia design and development process from the practitioners’ perspective. Combining the two sources of questions, we created and refined the list of interview questions for this study and ensured they would address the four research questions. A total of 141 interview questions were used. Part I of the questions focused on the role of the instructional designers (N=70), which was our primary focus. Part II of the questions (N=71) were used when an instructional designer also performed another role, which is often the case in the field. The questions on instructional designers addressed the following 10 aspects: (a) background information, (b) roles and responsibilities, (c) design and production process, (d) interface, instructional, and interaction designs, (e) formative evaluation, (f) teamwork, (g) client, (h) prototype development, (i) personal, and (j) evaluation of instructional designers. Sample questions included: “What are your roles and main duties as an instructional designer?,” “What are some major obstacles you face in doing your job?,” “What aspects of your job do you like the most?,” “What are the instructional design models/processes you use to develop an instructional program?,” “What advice would you give someone who wants to become an instructional designer?,” and “What type of qualities would you personally look for in an instructional designer?” (See the complete list of the interview questions in the Appendix.)

Data Analysis

The analysis of the data followed the guidelines by Miles and Huberman (1994). The interviews were first transcribed, then chunked, and coded. Two researchers independently coded the data. Codes were generated directly from the data through multiple passes of data examination. Two researchers then checked each other’s coding and resolved any disagreement in the coding. A third researcher went through all the data and coding for any gaps, missing codes, or inconsistency. During this process of checking and rechecking, the codes were refined, revised, and newly developed as emerging themes were added. Patterns from the data were extracted, and the relationships between the coded segments were compared and contrasted. The data were then sorted into categories and subcategories according to their common themes and shared relationships. Finally, using the research
questions as a guide, the codes along with their themes were nested into three general categories as determined by the research questions.

**RESULTS AND DISCUSSION**

**Role and Responsibilities of an Instructional Designer**

*Responsibilities.* Our previous research, examining the multimedia design and development process from the practitioners’ perspective, showed that the development process consisted of six main phases: (a) funding, (b) planning, (c) designing, (d) producing, (e) testing, and (f) marketing (Liu, Jones, & Hemstreet, 1998). The findings of our current study indicated that in this entire process of shaping an idea into a finished product, an instructional designer is heavily involved in the phases of planning and designing. They are also involved in the phases of producing and testing. Sometimes designers may also take on the responsibility of writing proposals and seeking funding. There are four major responsibilities an instructional designer performs: (a) working with a client; (b) working with a subject matter expert (SME); (c) working on the design; and (d) working with other members in a team. An instructional designer is often involved in the project from the beginning. He or she interacts with the client to understand what the client wants and works with the SMEs to understand the subject matter of the materials to develop as illustrated by the following interview quotes.

A lot of it is listening to trying to abstract out what it is they’re [client] really trying to accomplish and to give them immediate [feedback] that they may do that, what technologies would be appropriate, how much that might cost.

You’re the one trying to work with the SME, trying to figure out what it is that they really [want], what the content really is, what’s really important, what the audience and user really needs.

The prerequisite of [designing interaction] is understanding what the actual material of the content is. It’s not like we just look at a sheet and type it in. We have to understand the conceptual because what we’re doing is completely conceptual.
We talk to the managers of those people... we talk to experts... Let’s just talk to the guy who’s been a technician for 20 years and everybody goes to him. Find those people and interview them and then we also interview the new guys. You know, where do you personally struggle with up front? So a lot of that work. And then, you take that and you get down to your learning goal list in conceptual design and you start mapping interaction types.

Sometimes an instructional designer, working in another role such as a project manager, helps to secure a project.

Generally, I’ll get the first contact with the potential client, so there’s pre-work involved and just talking to them, finding out what they want, answering their questions, you know, up to the point where we actually have a proposal. “This is what we propose to do for you” and they say “yes.”

With a good understanding of the client’s needs and the content, an instructional designer will develop a blueprint to be executed by other team members, such as programmers, artists, and video/audio specialists. Such a blueprint comes in the form of a design document which specifies the breakdown of the content, what will appear on each screen, and what media will be used. In short, the role of an instructional designer is to translate the client’s needs into a plan that will be used to produce a product that meets the client’s needs.

A typical day. What a typical day is like for an instructional designer working in the field of new media? We asked the interviewees this question. Although it is clear that the days could vary from one project to another, some “typical” tasks they do in a day include: checking e-mails, having meetings, and working at a computer using some software. Here are a few responses that capture what a day is like:

First thing I do in the morning is check my e-mail. Then I’ll work on a project or start a project or maybe attend a meeting. Around [the] midday, [the] changes that I’ve made I either upload to the servers or I update the system that I’m working on. In the afternoon it’s basic development. I’ll do some research on what I’m doing. I’ll try to collect documents, maybe read some material that’s necessary for me to do my job, meet with people, things like that.

First thing I do is check email before anything else, and usually voice mail at the same time. I might have some meetings based on that. Somebody’s researching a project and I’ve worked on it so I’ve got to get them some information. Maybe there’s a client meeting. Maybe I’m working on the proposal or a piece of the design.
Check my e-mail, figure out what’s new as far as anything that I haven’t been paying attention to and then I’m either reviewing things that other people have done, and again, that’s at my computer, sending out email to set up meetings for people who need to get together to accomplish work, reviewing the work they’ve done and giving them feedback on it or I’m meeting with clients.

[In] this last project I was spending a lot of time with the SME trying to hammer down the specifics to the content. What procedures are we going to cover, what concepts are we going to cover. Then developing a document from that to return to the client and get signed off to go ahead for that. Then I spend a lot of time after that writing narration and writing storyboards. Then following that I work very closely with the production team making sure the design is going to be made in the way I envisioned it.

Work environment. “Fast-paced,” “collaborative,” “casual,” and “flexible” are the adjectives the practitioners used to describe their work environments. Most were in their 20’s and 30’s. Their work is heavily driven by the projects and is fast-paced. When they are working on a project and facing a deadline, they typically work long hours as much as 60 per week or more. A designer must be a team player and a true collaborator, as these practitioners emphasized. A designer needs to be able to work with other designers and team members such as programmers, artists, and video/audio specialists. The work atmosphere is casual in general; few wear suits or ties. Some work in a large, open, studio-like space with music playing in the background. Others are allowed to play games as part of their workday to relax. Some work side by side in physical offices while others work in a virtual office meeting face-to-face only when needed.

Job satisfaction. What is the reward for being an instructional designer? For some, job satisfaction comes from the interaction with clients. “I love the clients, actually. I mean they cause the most frustrations but I love them.” For some, it is the challenge of learning new tools and keeping up with the rapid changes. Others found it rewarding to be in a position where they had an opportunity to deal with multiple aspects of the development process. For many, however, their greatest gratification is in their ability to be creative—to develop a finished educational product from just an idea. One stated, “You have to be creative every single time to give the clients [what they’re looking for]. That’s a good spot to be in.”

Approaches in design. Although designers follow different models in their work, many emphasized the importance of “learning by doing,” “providing
experience,” and “learning from mistakes” in approaching design. Some employ the techniques of simulations, scenarios, and storytelling, while others create games and puzzles.

They’re [the audience] actually doing whatever it is they’re learning how to do because that’s the real power of the technology. You can do simulations, you can do scenarios where you’re putting them in a situation that you wouldn’t normally put them in real life and let them learn from the consequences of their actions. That’s 100% what we strive for—don’t always get there, but it’s always what we’re trying to do.

Engaging a learner through various interaction designs is emphasized. “[We] focus on providing software that will give the adults an opportunity to interact, where they’re not just reading about it and clicking on the next button.”

**Software tools used.** Students in instructional technology often asked “do we need to know how to use software tools? If we do, what tools do we need to learn?” Our findings showed that it is not only necessary to have some hands-on experience with popular software tools, but it is also important to be proficient in a few. Although instructional designers use simple software such as *Microsoft Word* to write design documents, it is clear some designers, especially those who graduated more recently, are also able to use more sophisticated tools such as *Macromedia Director* and *Flash, Adobe Photoshop* and *Premiere, Java*, and *HTML*. Some pointed out that knowledge of these kinds of tools can help them quickly put together a prototype to demonstrate design ideas to the client.

We have at least one designer who is very well versed in Flash, and no matter what she does, she’s going to put it together in Flash. She puts together a model of instructional design in Flash. I tend to be a Director guy. If I’m trying to say this is what I want to be animated, I’ll slap it together...I can show that to an artist or show it to an audience member or learner and say do you understand this, does this get the message across?

Others said that such knowledge enables the designers to participate in other tasks such as programming or creating graphics when needed. Being flexible and versatile proves very valuable in a small company when one person often wears multiple hats (Liu, Jones, & Hemstreet, 1998).

**Evaluation of a designer.** The practitioners said that their work was evaluated by their supervisor and/or the client. Larger companies tend to employ a more formal evaluation process using a performance feedback form or rating
system while smaller companies tend to use informal evaluation by asking if the clients are happy and tracking repeat business. Evaluation can occur on a regular schedule, like every six months or once a year, or after the completion of each project.

**Challenges of Being an Instructional Designer**

Based upon the interviews, it appears that three of the biggest challenges confronting a new media designer arise in dealing with clients, balancing multiple roles, and adapting to rapid technological changes.

**Working with a client.** An important task of being an instructional designer is guiding the clients through the design process. Some clients need assistance in producing a clear definition of the problem they are trying to solve. One experienced designer stated,

> It is often difficult to get a client to understand the concept of stated objectives and entry level skills, and I always try to get them to put down very specifically in writing what the learner needs to be capable of when they come out the training and what they expect to know when they get into to the training; and then explain to them that it’s a matter of taking them from here to here.

Other clients may not be aware of the steps and tasks that a designer takes to get to the end product. Some clients expect the designer to start from scratch and create a polished product within a short time, without providing necessary input. “One of the biggest challenges is... that the people... only want to see the end product. And they expect you to develop something out of nothing. They sometimes don’t have the understanding of the development time necessary...” Being able to get feedback from the client and the SMEs about the product throughout the design process is a skill an instructional designer must acquire. Many clients inexperienced in the field of new media have an oversimplified view of the design process and what is necessary to tailor a traditional product into a new media form.

Many of the designers we interviewed keenly felt the responsibility of walking the clients through the process and teaching them along the way. “You have to continue to educate others in what’s involved in doing this job,” noted one. This education includes explaining the design and production process; and helping the clients define the scope of the problem, learning goals, audience, and outcomes. A designer should be able to ask a lot of questions.
I do lots of meeting with clients and trying to figure out what they really need. They often say what they need, but what they really need is not what they say. Figure out what they need and put together a proposal that meets those needs.... I try to help them to identify their objectives and audience.... so one question I ask a lot of times, when you are successful, what will be happening?

When we are interacting with our subject matter experts, if we feel that not all the content is there we are up front with them, like for example in the case of courses when we start with PowerPoint presentations that were used in classrooms, sometimes instructors don’t even have notes in PowerPoint because they just use their mental notes.... So we take them back through the whole process to make sure that this is something that actually has value to the company’s initiatives...

In addition, a designer should be aware that the client may not be familiar with the industry jargon. Designers should explain the terminology to the client, or simply use everyday language. When instructional designers speak of objectives, goals, entry-level skills and the like, clients often need to hear these terms clarified. As one designer stated, “There’s some kind of bridge building time where you figure out what are you really saying.”

Another important aspect of this educational process is to help the client make the right design decisions based on a project’s needs. Clients sometimes do not understand the difference between an instructional or training module and merely information presentation. They may want to use multimedia when there is no need to do so. A designer should be able to discuss knowledgeably the possibilities of various technologies and help the client make the appropriate choice. “Sometimes my process in working with a client is to say, ‘I don’t think you really need training. I think you’re just talking about documentation here.’” A client also needs to be informed that design decisions will have an impact on the production. For example, a decision of what media to use in the product will affect the cost, and a change in such a decision later in the process may increase the production cost.

You know clients and even sometimes our own internal folks that are not part of our group, and they’ll want us to do another video, do this for them, they want us to end up making it into a CBT [computer based training] and if you’re going to do CBT, you shouldn’t spend this kind of money.

....We have to explain how things are getting made and how their [the client’s] decision impacts the actual making of something...
When resources and budget are limited, a designer should help the client prioritize what is most important for the instructional value of the product and not be constrained by what media to use:

You can’t give equal attention to everything. You can’t, and people disagree over what to give attention to. So prioritizing, which essentially falls back onto the “how to teach” question. What’s the most important part of teaching? If you have to cut things because of budget, which you always do, what are you going to cut? Those are kind of mundane technicalities, but they’re issues.

Although the clients usually have the final say in any design decisions as they fund the development and are familiar with the market in their field, the designers should offer their “best judgment” based on their expertise, and make sure the clients understand the designers’ position, especially in the case of disagreement.

Balancing multiple roles. Although many textbooks on instructional design often separate the roles of instructional designer and project manager, the practical experience of the interview participants showed that seldom is one’s role limited to that of a designer. About half of the interviewees were also project managers or performed duties normally associated with that position in addition to being an instructional designer. One stated, “my heaviest responsibility is in ... getting teams up and running, ....” Another said,

...depending on what the project is, how big it is, I’ll start assembling the people who I want to work on that one...But I’ll continue to be the primary client contact as far as letting them know how it’s going, usually they have access to see the prototype, making sure they’ve approved [the] themes, addressing problems that come up.

As part of a team, designers are often called upon to review others’ work, find clients, write scripts for video and audio clips, write programming code, write technical documents, create animation and graphics, work on character development, and train others.

Occasionally I create graphics...I [use] Fireworks to do that. Yesterday I removed words and logos from some HTML pieces using WordPad.

So that was a challenge that I faced... I had an education in instructional design, and suddenly I felt that I had to learn programming.
I am not in a position to stay current and hands on enough to be a strong programmer so I step in and program things that [are] related to content matters [in which I have an expertise].

That is, an instructional designer in new media often performs multiple roles depending on a project’s needs. Many smaller companies require designers to have different skills to maintain efficiency and low cost of operation. Some designers feel it is important to “be able” to do everything, even if they do not end up doing it all. It is interesting to note that within all of these responsibilities lies a main objective that may tie all the roles together. As one participant put it, “I’m trying to help people understand where we are now, and where we need to go, and help arrive at a formula for getting there.”

**Adapting oneself to technological changes.** Rapid technological advances continuously bring changes and new requirements to the field of instructional design. “[Instructional] design is going to evolve as technological capability evolves.” One designer commented, “designers [in her company] will need to be extremely proficient in Adobe Acrobat, some HTML and [Microsoft] Access. We will need to understand technology on a higher level because our business is changing and expanding so rapidly.” Another said, “For us the change is based on the Web, based on what kind of technical tools we use. You know we went from using Visual Basic as our primary language to code to now using Java. And we build all of our own tools. So that stuff is significant [in terms of knowing the capabilities of each tool].” A designer must not only be able to meet multiple responsibilities and perform different roles in a team, but also keep abreast of these technological changes. He or she must stay very flexible to adapt to changes quickly and continuously gain new skills to be competitive. A good designer is a life long learner, who sees the changes, and is willing to adjust him/herself to the changes so as to produce better products for the audience. The participants mentioned the challenges they faced daily in producing educational products using new technological tools, and the need to stay on top of the field. Their education and experience prepared them to some extent. However, as they emphasized, they must keep learning to stay current. “Really in keeping up with the field is just hard work...You just gotta read and read and read, and you have to care about it.”
Meeting the Challenges

*Staying on top of the field.* An important question to these designers is “How do you address the challenges and stay current?” Their formal education in instructional design equipped them with the foundational knowledge and some hands-on experience. Their varied backgrounds in graphic art, video production, programming, and teaching contributed in laying down a strong foundation for being a good designer. Some pointed out that the experience gained from working on numerous projects, and performing different roles in a project helped them learn to be flexible and adapt quickly to new situations.

While on the job, these practitioners try to keep up with changes by taking additional college classes, attending conferences and training, having informal meetings within their company where people share what they have learned, studying products from their competitors, maintaining university connections and involvement, and even learning from the clients.

One thing that keeps us very up to date is our customers, because they say, “okay I want you to deliver this using the latest version of the [software programs]....”

One other thing that I really enjoy is to speak to university classes and try to have interns that we bring in from [the University], and that helps me keep fresh.

Looking at our competition, looking at what other products are out there that are getting a lot of attention that is really helpful.

We meet at least once a month and talk about constructivism, models and research in instructional design and cognitive science.

Different people [on the staff] keep up with different sites or listserves. If they are very skilled with a certain product, they will always be following the latest advances of that product.

A few mentioned they tried to read magazines and journals, but they admitted that given their busy schedules it was hard to devote enough time to do that. “We do subscribe to magazines, journals and once in a while we look at those, but when the projects start coming, your plans have to be put on hold there.”
Besides what has been previously discussed, another important step for instructional designers is staying connected (Siegel, 1994; Liu, Jones, & Hemstreet, 1998). People networks are very important to instructional designers, since theirs is a career as fluid as the companies that hire them. One of the participants began with his own company that was later acquired by a larger one, which itself was in turn acquired by a third company, and he maintained his working relationship with one of his original clients throughout all the transitions.

I was working on my own, had my own very small company, myself, my wife and half a dozen contractors for a couple of years and I worked primarily for one client.... When I came to work for [the new company], I brought them along as a client, so I have continued to do [that at the third company], to head up all the work we do for [that original client].

**Attributes of an effective instructional designer.** The practitioners discussed different qualities a designer should possess. Of those mentioned attributes, there is a consensus that a good designer should be (a) a quick study who is willing to learn new things; (b) a team player who can work with others well; (c) attentive to details; and (d) a good communicator both orally and in writing. Apart from these, the practitioners mentioned they would also look for people who have experience and are self-reliant, resourceful problem-solvers. Finally, they want to hire individuals who not only “know what they’re talking about,” but also are “passionate about what they do.”

**Advice to newcomers.** Given the challenges of being an instructional designer, what can students do to prepare themselves for the field of instructional design? Besides taking classes and getting a degree, the designers offered the following practical advice:

- Seek out to gain a variety of experiences.
  Get a wide variety of experiences, from graphics to databases, to content areas. If you have to, volunteer at a design company in whatever roles you can and gain an overall idea of each role and how a team works together. Working with different companies gives you an idea of what type of teamwork situation you function best in.
  Do projects in school that you are very involved in and that can become your portfolio. Try to get internships at a couple of different companies so you can see how that works.
• Be open to new ideas and familiar with the capabilities of technological tools.
  Don’t be afraid to ask questions. ...be open to learning new ideas and methods and get to know your tools, resources, and systems. Out in the real world it’s basically knowing the tools and getting the job done.
• Learn to write well.
  Hone [your] writing skills for sure because you will be doing a lot of that. We’re kind of like information architects—you have to be able to communicate everything in a really easy to follow way for the client, and also for what you’re developing.
• Enjoy what you do.
  Make sure that you like this, if you don’t, then go somewhere else, go do something different.

CONCLUSION

It is clear that an instructional designer plays a critical role in developing new media-based instructional products. In support of other research (International Board of Standards for Training, Performance, and Instruction, 1998; Le Maistre, 1998; Liang, 1999; Liu, Jones, & Hemstreet, 1998; Moallem, 1998), the findings of this study identified four essential competencies for being an instructional designer in new media development:

1. Communication: A good designer should have excellent “people” skills and be able to communicate effectively with clients, SMEs, and other team members both verbally and in writing.
2. Instructional design: A good designer should be well-versed in several instructional design models and strategies from which to choose a case-specific process. He or she should keep up with new education or training theories and research to apply them in the product development.
3. Problem-solving/decision making: The process of developing a quality new media product is full of challenges along the way. A good designer should be able to perform multiple responsibilities, step into new roles when necessary, and overcome obstacles under a deadline. A good designer is a problem-solver.
4. Knowledge of technology tools: A good instructional designer should have a basic knowledge of important software tools used in the field and be aware of newly advanced tools as they become available.
The job market for instructional designers will continue to grow and expand, and with it, the definition of an instructional designer will evolve at the same pace that the technology changes. Since the role of an instructional designer is affected by the possibilities that new technologies create daily and how technological tools aid communication, so shall each instructional designer contribute to the task of defining their profession. Therefore, it was to these practicing instructional designers that this study turned to understand the evolving responsibilities, expectations, and challenges of today’s instructional designers.

References


solving, decision making, and complex thinking of designers. National Convention of the Association for Educational Communications and Technology, St. Louis, MO. (ERIC Document Reproduction Service No. ED423850)


APPENDIX

Interview Questions

Part I. Role of an Instructional Designer

Background - Education and Experience

• What is your educational background?
• What is your prior experience (experience related and not related to multimedia development)?
• How long have you been in this field?
• How do you classify yourself?
• Do you have experience in any other roles in a multimedia company?
• What is your philosophy of instructional design or multimedia development?
• How did your educational background and prior experience prepare you for the job?
• What kind of change have you seen in the field of multimedia courseware
development over the last three years and how have your job, role, and duties changed as a result?

- How do you expect the duties of an instructional designer likely to evolve in the near future?
- How have your educational background and prior experience prepared you to cope and keep up with this change?

Roles and Responsibilities

- What are your roles and main duties as instructional designer (or curriculum developer, multimedia developer, multimedia designer, web designer)?
- What other roles do instructional designers from your company customarily perform?
- What is your relationship with other staff members?
- What is your relationship with the clients?

Company Information

- How long has your company been in business?
- What are the characteristics of your main competitors?
- Describe the working environment of your company?-its philosophy, work ethic, how people treat each other, etc.

Design and Production Process

- What is the ID models/processes you use to develop an instructional program?
- Do you use the same model/process or different ones for the programs to be developed? Any trend in using ID models you’ve noticed in recent years?
- What parts of the design and production process are you directly involved in and what are your responsibilities?
- How has your involvement in the production process changed in the last three years? Are you involved in parts of the process you weren’t before? Likewise, are you not involved in parts you were before?
- How has the design and production process changed in the last three years?
- What additional changes do you anticipate in the near future? How will these changes affect your role?
- Do you have input in the vision of the project?
At what point in the production process do you first become involved?
What other roles do you work closest with and why?
At what point do you stop working on a title?
Are you involved in creating the storyboard/flowchart? When do you begin to create it?
What aspects of your storyboard are often subject to editing?
Do you have direct contact with the client, or does someone else in the company handle those interactions? How do they do that?
What has changed with respect to your relationships with clients in the last three years?

Teamwork

How often do you meet and what is the purpose of the meeting?
How do team members communicate with each other?
How important is teamwork to the product development?
How to build a successful team?

Prototype Development

How many instructional designers are involved in developing a prototype?
Are the prototypes a segment of the title or a totally separate project?
Do you often create more than one prototype?
Does the prototype limit you in the production of the entire title?
If you also author a prototype:
a. What is your preference of authoring tools? Why?
b. How is a tool chosen for a specific project?
c. What is the key equipment necessary for authoring?

Interface, Instructional, and Interaction Design

How important is interface design and why?
How is the interface designed?
Would you share with us your “ideal” interface?
What do you think are the keys to a good interface design?
How important is the phase of instructional design to the entire development process?
What do you think are the keys to a good instructional design?
How do you make a design inviting and fun?
Are you often requested to use gender-specific or ethnic-specific designs, and if so, under what circumstances?
How do you decide to use text, visuals, or interactions in your design?
How do you build interactivity into your designs?
What types of transitions do you employ in your designs?
What type of feedback do you use in your design? Why?
Do you often have to use color-codes/color schemes/designs that the client wishes to use?
Do you try to address different learning styles/ability levels in your design?
Do you prefer learner-controlled designs?
How many levels (from the main menu) do you suggest in a design?
How do you utilize the artist?
How do you utilize the author?
How do you utilize the programmer?
How do the subject matter experts contribute to the multimedia application?

Formative Evaluation

Are you involved in any type(s) of the evaluation of the products? In what way?

Evaluation of Instructional Designers

How does your company evaluate your performance or that of other instructional designers’?
How should the performance of instructional designers be evaluated?

Personal

Can you think of any examples of lessons learned from experiences in the field?
What are some major obstacles you face in doing your job?
What aspects of your job do you like most?
What advice would you give someone who wants to become an instructional designer?
What type of qualities would you personally look for in an instructional designer?
What quality makes up a good instructional designer?
Describe your typical day?
Part II. Others Roles

Use a few of the following if he/she is also a______ (based on answer from above.)

Director/Project Manager Questions

- What kind of people do you like to hire, what kind of qualities are you looking for, how will new people get better prepared?
- Do you meet with the client? If so, how often? Why is it important?
- In what way do you utilize user-testing?
- Which roles are involved in developing the prototype, how many?
- Which roles are involved in the design phase, how many?
- Which roles are involved in the production phase, how many?
- How do you distribute the title?
- What types of follow-up do you engage in?
- What method is used in testing the product? If focus group, how is it utilized?
- Does the client typically supply any content? Thematic direction? Background?
- Does the client usually own the copyright of the content and gain ownership of the copyright of all pieces of the project?
- How does your company handle legal aspects? Business aspects?
- Have you had any clients return for repeat business with you? Why do you think so?

Author Questions

- What authoring tools are most commonly used in multimedia development?
- If you use different authoring tools to develop a prototype and the final product:
  - What is your preference of authoring tools for developing the final product? Why?
  - How is a tool chosen for a specific project?
  - What is the key equipment necessary for authoring the final product?
- Do designs ever need to be altered after they have been approved because they are unfeasible from a production point of view?
- How do you communicate the scope of a change you are requested to make?
What’s the relationship between authoring and programming?
Should authors know some programming?
Do you develop and use templates?
Do you work from a style guide, and if so, how is it created and who creates them?
What’s the process for collecting all the pieces you use in the title?

Programmer Questions

Do you have input regarding the difficulty of programming the design?
Do you ever have to say - this design is too complicated - let’s do it this way instead. For example, you are asked to write a function in a particular module in C++ which you think should be done in Lingo?
Do you ever make any changes in the design you are given to program?
Do you have to get permission to make these changes, and from whom?
What types of follow-up do you engage in?
What is the relationship between programmer and author? How do you work together?
How do you utilize the instructional designers?
How do you work with the instructional design team?
What software/languages do you use? Why?

Artist Questions

How do you decide the visual schema for a project?
How do you decide on a typeface for the text?
How are the ground rules for a project set?
Are you involved in creating the storyboard/flowchart? Who is responsible for storyboarding in your company?
Is the interface design a big issue to you? What are some concerns that clients have with interface design?
What do you think are the keys to a good visual graphics in a title?
Is your artwork consistent?
Do you create your own artwork more or use copyrighted materials?
Do you utilize photographers for projects?
Do you help with the creation of the cover or public relation materials for the title?
How do you utilize the instructional designers/permissions department/authors?
What hardware do you use in creating artwork?
What software do you use in creating artwork?
What are the tools of your trade?
What are some rules of good icon design?
• Are there any legal implications in designing your artwork? Ex. Creating an icon from a picture?
• Do you work from a style guide and if so, what is it?
• How do you balance production and creativity?
• Do you ever hand-draw your art and then scan it in?
• At what point do you confer with the instructional designers or client if you have laid out the screen, created a color scheme, and have a visual balance? Do they often change the design?

Animator Questions

• What role do you play in creating/developing animations?
• Do you work with designers in creating animations?
• How are drawing skills and the ability to create movement used in animation?
• Are animations utilized in the design and prototype stages?
• Which programs do you use to create your animations? Why?
• How is the style of the animation communicated to you?
• Does animation affect the budget/timeframe of the project?

Writer/Editor Questions

• How much of the screen do you reserve for text?
• How is the vision/tone of the project communicated to writers/editors?
• What role do you play in creating documentation of the project?
• What role do you play in writing the proposal of the project?

Videographer Questions

• Do you use video for on-the-scene reports or interviews?
• Who is responsible for the script and storyboard of the video?
• How do the amount of storage space affect the use of video?

Audiographer Questions

• When is voice-over utilized over text?
• How does sound affect the design of the multimedia?
• How does the location of the multimedia to be used affect the sound?
• How does the company find voice talent and musicians? Are they kept on staff?
• How does the voice affect the mood and emotion of the project?
• How often is background music employed in a project?
• What separates a good versus bad voice for a multimedia project?