

Note: This version of the document is an excerpt containing just the learner analysis portions of the project.

Instructional Design Project

Writing Specifications for Interactive Learning Tools

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EdTech 503
Spring, 2012

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Part 2. Analysis Report

Part 2a. Description of the Need

Part 2a.1 Needs Assessment Survey

To identify the needs of learners, I created a needs assessment survey using SurveyMonkey.com. The survey questions are included in Appendix 1. The survey was administered online with all responses anonymous to encourage honesty from participants. The link was sent to 18 freelancers who have previously written storyboards for interactive whiteboard (IWB) activities for NETS. To date, 11 people have responded to the survey.

The questions in the survey were centered in three areas: the participants' comfort with technology in general, their experience and training, and possible motivational factors that may contribute to poor performance.

Part 2a.2 Needs Assessment Data

COMFORT WITH TECHNOLOGY The first two questions in the survey deal with the participants' comfort with technology. The first question, "How comfortable are you with technology in general?", elicited generally positive responses. About half the respondents indicated that they were "very comfortable" with technology. The other half were, for the most part, comfortable, but they expressed some level of need or desire for training:

There is a lot that I don't know, but I am comfortable learning new things.

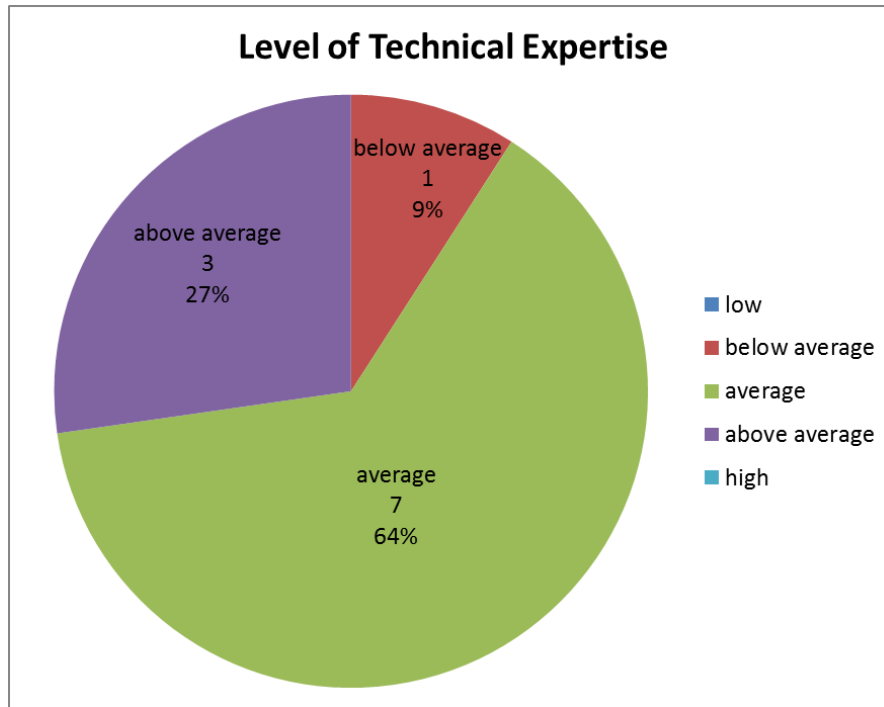
I am comfortable using technology that has been explained to me or that I have had time to learn on my own. I am not afraid of learning new things. I prefer to have some type of written or oral instructions when getting familiar with new technology.

Overall, fairly comfortable. I am not comfortable if things do not work right the first time I use it. I am not comfortable trying to figure things out on my own.

Somewhat. I am hesitant to try new technologies, but once they are explained to me, I feel much more at ease.

Pretty comfortable but need training

The second question asked users to rate their level of expertise. Nearly two-thirds rated themselves average, about one-quarter rated themselves above average, and one rated him or herself below average. The following graph summarizes the results:



Based on these results, it is apparent that there are a significant number of learners who feel more comfortable when they have some help learning new technologies—they are not all confident in their ability to figure things out for themselves. However, the results suggest that care should be taken to allow flexibility for those who are more confident to move ahead faster or to skip over content they already know.

EXPERIENCE AND TRAINING Questions 3 through 6 deal with learners’ experiences with interactive activities, training, and writing storyboards or designing interactive activities.

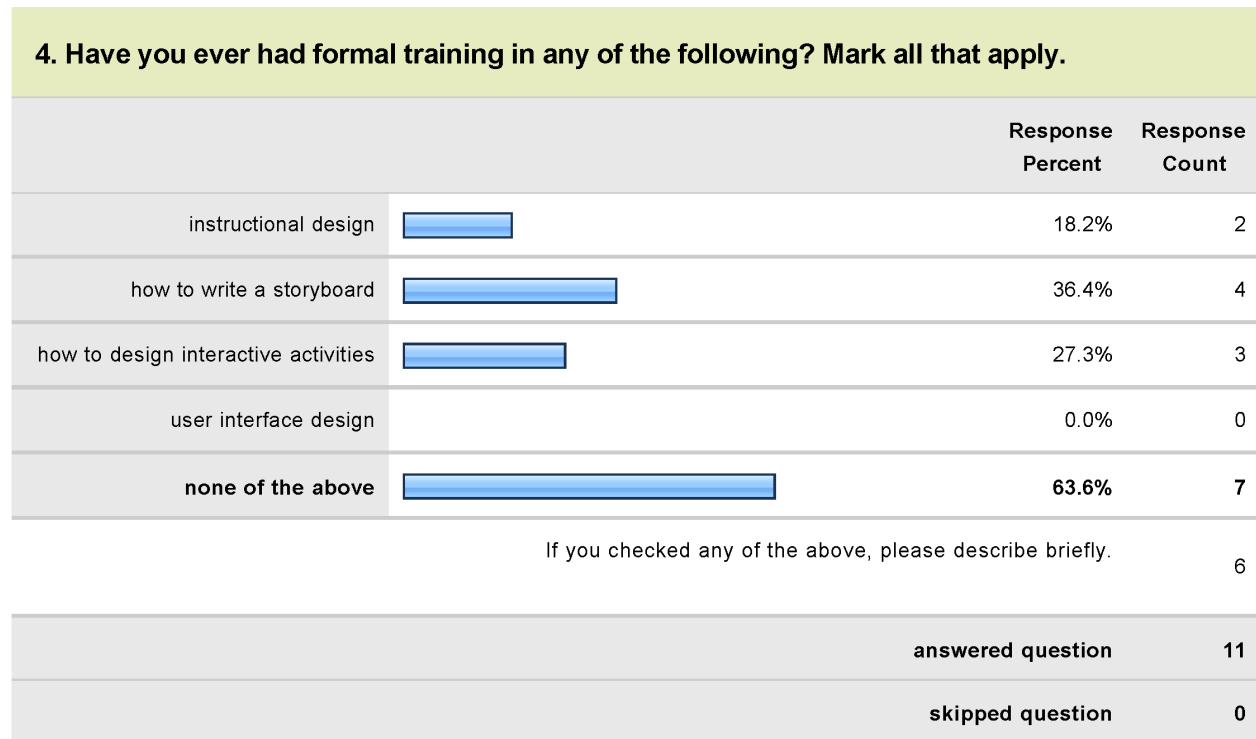
The question “What types of interactive activities have you used or reviewed?” led to a wide variety of responses that suggests the question may not have been clear to all participants. One participant gave a very specific answer: “Drag and drop, I cannot remember what the others are called.” On the other end of the spectrum, another participant responded with a much more general answer: “...Does Wii count?...” (This same participant mentioned that she or he had written over 100 reviews of online math and science sites.) A couple of the responses were simply puzzling, particularly in light of the fact that all participants had written storyboards for IWB activities before:

None.

I have not used or reviewed any interactive activities. I wrote manuscript for interactive activities. [It is theoretically possible that this person wrote storyboards for one or two projects, but never looked at any of the samples supplied to writers.]

Overall, it appears that all participants have at least some exposure to IWB activities, but few appear to have deep or broad experience with interactive activities.

Question 4 deals with formal training. As the figure below shows, participants generally have had little formal training, particularly when you take into account that there is a good deal of overlap in the positive responses. Seven participants have not had any formal training at all, despite the fact that they were indeed writing storyboards! It would be interesting to find out if some of those participants received training that they perhaps considered to be “informal” rather than formal. One of the participants who responded “None” added the comment, “Formal?? Not in my opinion. I have attended online demonstrations by NETS and other developers.”



Regarding depth of experience in writing storyboards, answers to question 5 revealed that most of the participants have fairly limited experience. Eight of eleven participants had only written storyboards for up to three projects. Three of the eleven had more extensive experience, with one participant noting five years of experience on varied assignments.

When it comes to writing interactive activities, survey results are somewhat unclear due to apparent confusion over what was meant by the term “interactive activity.” Some people described simple writing of IWB activities, some described writing more complex interactive activities, and for some it could not be determined. Two people clearly had relevant experience. Another three may or may not have had relevant experience. Six clearly did not have any experience beyond writing simple IWB activities. In general, it is evident that learners do not have much depth of experience in the target skill.

MOTIVATIONAL FACTORS The final two questions deal with motivational issues. I asked these in an attempt to determine how much of the problem situation is a learning/training issue and how much may be due to motivation. The K–12 publishing industry has gone through some very

difficult times over the last four years, with layoffs at virtually all of the companies in the industry, and many development companies going out of business. As a result, pay for projects is significantly lower than it was before the downturn. The remaining employees tend to be overworked, resulting in poor planning by publishers, and thus short deadlines for development companies like mine. A natural question arises—are people simply doing a poor job because they’re putting in the level of effort they feel they’re being paid for?

Question 7 deals with the participants’ perceptions of the fairness of the pay rates for the work they have done for NETS. Results are shown below:

7. If you have written storyboards or interactive activities for NETS, how fair was the pay rate for the work you did? (If you have worked on more than one project, please respond with the average of your experiences.)							
	Very Unfair (Lousy pay rate)	Unfair	Fair	More than Fair (Generous pay rate)	N/A	Rating Average	Response Count
	10.0% (1)	20.0% (2)	70.0% (7)	0.0% (0)	0.0% (0)	2.60	10
						Comment	4
						answered question	10
						skipped question	1

The three participants who responded “Very Unfair” or “Unfair” wrote comments indicating a significant dissatisfaction with the pay rates. However, 70% considered the rates fair. This is a complicated issue, as the complexity of the work varied from project to project, and even from unit to unit within the same project. In addition, different freelancers have different expectations regarding compensation, with some looking for a higher effective hourly rate than others. Also, some freelancers in the past have expressed a willingness to work for less on an interesting new technology project in exchange for building their skills. Still, while the pay rate does seem to be a possible factor for some learners, and therefore merits consideration moving forward, a substantial majority seems reasonably content with the rates.

The final question, regarding how participants respond to aggressive schedules, was a bit problematic to pose. An honest answer to a question like “When faced with aggressive deadlines, do you turn in poorer quality work?” seemed unlikely. So question 8 was designed to get at the issue somewhat obliquely, and to see what comments it might elicit. Four participants indicated that aggressive deadlines make them work faster; no one said it gave them writer’s block; seven said neither of the above. Of the seven who said neither of the above, four left comments. Three of those comments implied that aggressive deadlines do have an impact on quality of work. Some sample comments:

...some assignments lend themselves to fast work better than others. Some assignments require time to think.

Too tight deadlines mean I just have to keep going, often implementing the first idea that comes to mind. It means that I am more likely later to think of a better way and...not have time to make the change...

...I think aggressive deadlines can result in manuscript of lesser quality. You do the best you can in the time you have.

SUMMARY In summary, the needs assessment survey reveals the following key points.

Comfort with Technology: A significant number of learners will need some help learning the technology components of the skill. At the same time, try to allow those who are more confident to move ahead faster or to skip over content they already know.

Experience and Training: Learners have limited experience and training in this problem-solving domain. Instruction will need to provide adequate scaffolding to support learners.

Motivational Factors: While a lack of training and experience seems to be a much more significant issue, the motivational factors of pay rates and schedules are not insignificant. Addressing these factors is outside the scope of this project, but should be part of the broader solution.

Part 2b. Context

Part 2b.1 Learning Context Description

As noted in Part 1, the target learners are freelancers. These freelancers work from home. As noted in Part 2c below, they live all over the country, work highly variable schedules, and have many diverse concerns and demands on their time. Therefore, the primary delivery mode for this instruction will be online and asynchronous. However, the instruction will be designed so that it can also be delivered in a live webinar format, which may be better suited to certain projects or learners.

Because freelancers all supply their own hardware and software, the available configurations may vary considerably. However, typical project requirements essentially force freelancers to upgrade from time to time, or they find themselves unable to work on particular projects. Based on extensive experience, we can expect the following minimum platforms:

- PC with Windows XP or later OR Mac with an OSX version no older than 4 or 5 years
- Reasonably recent browser software (Firefox 3.6 or later; IE 7 or later; Safari 4 or later); if necessary, most freelancers can update to a newer version
- Microsoft Office 2003 or later (most have 2007 or later)

To simplify video compatibility issues, videos will be posted to a YouTube account, with links supplied in the instructional materials.

I will create the course materials, including any videos. Instructional materials will be designed so that either I or members of my staff can conduct the training. Over time, it is expected that various senior members of my staff will use the training materials as needed for different projects. These staff members have moderate to extensive experience creating specifications for interactive tools. They also have experience creating project guidelines and training freelancers for specific projects. They are experienced in the use of Web conferencing and audio conferencing tools, and they have recently begun to learn how to create short training videos.

Because training will most often be tied to project needs, the number of learners will vary, as will the frequency of training sessions. However, based on past projects, class size can be expected to range from three to ten, with five being a fairly typical number.

Part 2b.2 Transfer Context Description

The transfer context for these specification-writing skills will primarily be the same as the learning context. Learning will likely occur in the context of a specific project, and learners will use their learning as they work on that project. From the perspective of the physical setting, learners will use their skills as they work at home, just as they will learn the skills at home through the online delivery.

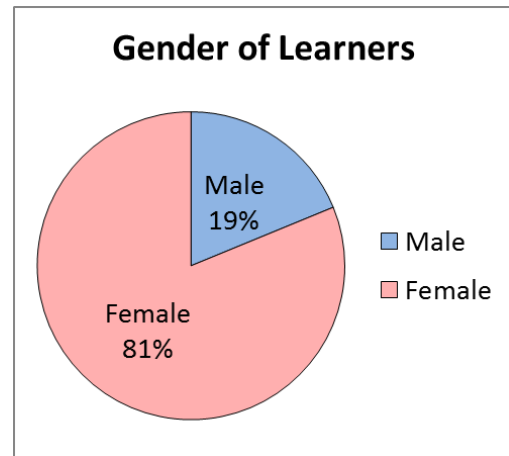
However, there are some important ways in which the transfer context may differ. While the initial usage of the skills will probably be in the context of the specific project for which the training was offered, learners are likely to work on other projects in the future where the subject matter, development environment, and project requirements may vary. For example, one project may be a math project where only simple learning tools like randomized digit card sets are needed, and the development environment might be Flash embedded within an IWB file for use on interactive whiteboards. Another project may be a science project that requires interactive labs. The development environment could be HTML5 with iPads as the target devices. Therefore, instruction should not be tied too closely to a specific project context. (Note: Depending on the particular learners and their experience levels, it may be necessary to do the initial instruction with a very focused project context to reduce cognitive load, then later offer follow-up training that helps learners generalize to other contexts.)

In addition to other NETS projects, learners may also transfer their learning to projects they do for other clients. Those clients may have somewhat different procedures, but the core principles should be quite similar. It may be beneficial to point out to learners some of the procedures that may differ from client to client, and the principles that should be more universal.

Finally, the skills that learners will acquire should also help them improve their performance on other types of projects, such as print projects or simpler storyboarding tasks like IWB lessons. All of these contexts require writing directions for production staff; they all require writing art specifications; they all require thinking about how best to present an activity in a given medium. Again, it may be helpful to point out some of these more universal principles in the training to enhance the transfer to other contexts.

Part 2c. Description of Learners

As noted in Part 1, the target learners are freelancers who have some experience writing storyboards for interactive whiteboard activities. This population skews heavily female, as shown in the graph at right, which is based on information in the NETS freelance database. (NETS, 2012) The ages of learners vary widely, from a few in their mid-20s to some in their 60s, and every age between. Most have some sort of background in education. Many are former teachers, and some are still teaching in the classroom while doing freelance work on the side. Most have some sort of degree in education or have earned a teaching credential. The few who do not have education-specific coursework typically started in educational publishing in a production or copyediting role, and later moved into content creation as they gained on-the-job experience.



Nearly all of the freelancers work from home. Geographically, they are located all over the country, and most are accustomed to working remotely. Nearly everything work-related has been distributed electronically in recent years, and so most freelancers have learned the basics about how to use email, Web browsers, FTP and other file transfer systems, conference calling systems, and Web conferencing. Some discrepancy in technical skills has been noted anecdotally between freelancers who work on math and science projects vs. those who work on reading/language arts projects; the former are generally more technically adept than the latter.

Some freelancers work part time, and some work full time. The reasons vary widely. Some part-time freelancers have young children they care for, some have other jobs, and some simply prefer not to work full time. The full-time freelancers generally do not have young children at home (or they have day care arrangements). The part-time freelancers are more likely to have a spouse with a full-time job who provides the main family income. Some of the full-time freelancers are the primary breadwinners in their family, some need two incomes to support their lifestyles, some simply like to work, and some like the money. All of these differences in individual situations means that some freelancers are highly motivated to work hard and maximize their income, while others are less motivated. In addition, some freelancers have many distractions such as children running around, dogs barking, and home repair people ringing the doorbell; others work in quiet isolation (which some love, and some hate).

Part 2a.2 above notes the generally thin interactive development experience of the target learners. However, many of these learners do have extensive experience writing educational content for print products. Some of them formerly worked for publishers, and some have decades of experience as freelancers. Those with extensive experience tend to be very disciplined and organized. Those who are relatively new to freelancing sometimes struggle with time management and juggling deadlines, and when they are struggling, they are more likely to try to hide that fact rather than admit it and seek solutions with their clients.

Appendix 1: Needs Analysis Survey

Storyboarding Experience Survey

Exit this survey

*** 1. How comfortable are you with technology in general?**

*** 2. Rate your level of technical expertise from 1 (low) to 5 (high).**

1 (low) 2 3 (average) 4 5 (high)

3. What types of interactive activities have you used or reviewed?

*** 4. Have you ever had formal training in any of the following? Mark all that apply.**

- instructional design
- how to write a storyboard
- how to design interactive activities
- user interface design
- none of the above

If you checked any of the above, please describe briefly.

*** 5. What experience do you have with writing storyboards?**

*** 6. Have you ever written interactive activities? If so, please describe them briefly.**

7. If you have written storyboards or interactive activities for NETS, how fair was the pay rate for the work you did? (If you have worked on more than one project, please respond with the average of your experiences.)

Very Unfair (Lousy pay rate)

Unfair

Fair

More than Fair (Generous pay rate)

N/A

Comment

*** 8. Is an aggressive deadline more likely to motivate you to work faster or to give you writer's block?**

- I am motivated to work faster.
 I tend to get writer's block.
 Neither of the above.

Comment/Other (please specify)

Thank you for your help!

Done

Powered by **SurveyMonkey**
Create your own [free online survey](#) now!