

Advanced Practices in Learning Systems Design

Case Facilitation Plan – Reflective Journal – S. Winrotte

Fall 2017

Case & Team Information

Name of Case:	Abby Carlin: Documenting Processes in a Manufacturing Setting			
Team Number:	1			
Team Member Names:	<i>Candace Girard</i>	<i>Katie Hoskins</i>	<i>Andrew Buckmaster</i>	<i>Summer Winrotte</i>
Roles:	team manager and discussion summarizer	lead for defining objectives, and selecting readings	lead for creating discussion questions and facilitating the discussion	lead for completing the Case Facilitation Plan

Case Analysis

Key Stakeholders Roles & Primary Concerns

Stakeholder's Role	Stakeholder's Name	Stakeholder's Primary Concern(s)
ID'er	Abby Carlin	<ul style="list-style-type: none"> ▪ She “had never been in a manufacturing plant before” and is “nervous” because this is “her first real instructional design job.” (p. 186) ▪ Even though it is “instinct to talk to the worker to get information” it is not going to work because of the noise levels on the plant floor. (p. 187) ▪ The job is going to be bigger than she first realized. (p. 188) ▪ While observing Big Jon, she made note of several concerns in regards to identifying what he was doing in his role. <ul style="list-style-type: none"> > “She had problems seeing at all with the poor lighting and safety goggles.” (p. 188) > “She couldn’t talk to Jon as he worked” and was frustrated. (p. 188) > “[Big Jon] showed no interest in slowing down or demonstrating the steps for her.” (p. 188) > “I can see now how the trainees need to learn on this equipment, but I can’t even write down the steps they need to follow, let alone create classroom training her on the plant floor.” (p. 188) ▪ She can’t believe she has “to train everyone while keeping up production.” (p. 188) ▪ She “must figure out a way to document the steps [the workers] take in operating the equipment and how to talk to them where they can here me.” (p. 188)

Stakeholder's Role	Stakeholder's Name	Stakeholder's Primary Concern(s)
		(Ertmer, Quinn, & Glazewski, 2014, p. 186-188)
Project Manager	Dr. Joyce Abbott	<ul style="list-style-type: none"> “The most important thing for you to do, Abby, is to think outside of the box”, and Abby doesn’t “seem to be stuck in a certain design or delivery mode.” (p. 188) (Ertmer, Quinn, & Glazewski, 2014, p. 188)
Funding Agency	Fritz David Manufacturing (FDM)	<ul style="list-style-type: none"> The contract between FDM and LT3 “was for the design and delivery of training on the use of steel blanker machine.” (p. 186) (Ertmer, Quinn, & Glazewski, 2014, p. 186)
Client	Andrew Thomas	<ul style="list-style-type: none"> He is “anxious about the training process, since he has never had a reason to use it before.” (p. 186) FDM’s steel stamping plant production must stay “on track”, and the plant cannot “lose productivity”. (p. 186-187) His retiring employees are “being replaced by you, inexperienced operators”, and “the new guys don’t have a clue how to operate the blanker machines.” (p. 186-187) He does not “know how to operate a blanker machine the entire way through.” (p. 187) The plant does not “have anything in writing on how to operate [the blanker machines].” (p. 187) He believes that “the only way new workers could really learn how to operate the equipment was by using it.” (p. 188) He needs “three shifts of employees trained in 90 days.” (p. 188) (Ertmer, Quinn, & Glazewski, 2014, p. 186-188)
SME <i>Blanker Machine Operation</i>	‘Big Jon’	<ul style="list-style-type: none"> Big Jon had “no interest in slowing down or demonstrating the steps for [Abby].” (p. 188) (Ertmer, Quinn, & Glazewski, 2014, p. 188)
SME <i>Blanker Machine Operation</i>	FDM Retirees	<ul style="list-style-type: none"> The FDM retirees are “ready to retire.” (p. 187) The FDM retirees “aren’t really interested in training new guys.” (p. 187) (Ertmer, Quinn, & Glazewski, 2014, p. 187)
Audience <i>Learner</i>	FDM New Hires & FDM Internal Transfers	<ul style="list-style-type: none"> “All of the [new guys] want to be here.” (p. 187) (Ertmer, Quinn, & Glazewski, 2014, p. 187)

ID Challenges & Case-specific Constraints

1 ID Challenge / Case-specific Constraint	2 Classification ID Challenge Case-specific Constraint		3 Priority	4 Rationale for Priority Number Assigned
<p>Current ID Challenge: <i>Analysis</i> - Define the problem and identify constraints</p> <p>Even though Abby ensured Andrew that FDM could count on LT3, “she wished she felt as confident” (Ertmer, Quinn, & Glazewski, 2014, p. 188). Dr. Abbott reminded her that she hired Abby because she is able to think outside the box. Based on the ADDIE model of instructional design, Abby is struggling with the <i>Analysis</i> phase. In preparation to specify how the training will be developed and implemented, Abby must perform a needs analysis. From the needs analysis, in comparison with the identified training problem, Abby can specify a list of constraints and a list of tasks that must be included in the instruction. Without the outputs from the <i>Analysis</i> phase, it is impossible to begin the <i>Design</i> phase of the instructional design model.</p>	X		1	<p>It will not be possible for Abby move any further towards the design and development phases of the project if she does not complete a thorough front-end analysis. Because Abby will not be able to proceed without resolving this instructional design challenge, she must prioritize identifying the problem and completing a needs analysis above all other challenges and constraints.</p>
<p>Current ID Challenge: <i>Design</i> - Selecting an instructional delivery system</p> <p>Previously, new FDM employees were trained by shadowing a veteran employee as they did their job. Andrew notes that the previous instructional delivery system (one-on-one training) will not work this time due to the large volume of new employees needing to be trained and needing to maintain productivity. He also points out that “noise levels are pretty high,” introducing another challenge to providing training at</p>	X		4	<p>Using outputs from the <i>Analysis</i> phase, such as the learner analysis, needs analysis, task analysis, and constraint analysis, a strategy for developing instruction can be created. The ID challenge of selecting an instructional delivery system must follow after the <i>Analysis</i> phase (Priority 1) because choosing an instructional delivery system is dependent on the <i>Analysis</i> phase. Additionally, Abby cannot be selecting an instructional delivery system unless she has determined solutions to the SME and time</p>

1 ID Challenge / Case-specific Constraint	2 Classification ID Challenge Case-specific Constraint		3 Priority	4 Rationale for Priority Number Assigned
<p>the machines on the plant floor (Ertmer, Quinn, & Glazewski, 2014, p. 187).</p> <p>Abby is challenged with choosing an alternate instructional delivery system to what FDM has used previously. Selecting an appropriate instruction delivery system is foundational to the <i>Design</i> phase of the ADDIE model of instructional design. Then, in conjunction with written objectives and instructional delivery goals, the instruction may be designed.</p>				<p>constraints (Priority 2 and 3). That being said, the challenge of selecting an instructional delivery system must follow directly, as Priority 4, since the design and development of training materials is dependent upon the system in which they are delivered.</p>
<p>SME Constraint:</p> <p>Lack of buy-in from retiring equipment SMEs</p> <p>Most of the employees retiring from FDM have worked with the blanking machines for the previous thirty years. Because of this, Andrew has not had to train anyone, instead he relied upon his senior employees to train the new employees one-on-one. The retiring employees are the SMEs when it comes to operating the blanker machines. Andrew even admits that he is not a SME, stating that even he does not “know how to operate a blanker machine the entire way through” (Ertmer, Quinn, & Glazewski, 2014, p. 187). While Andrew admitted that the retirees (SMEs) are a good group of employees, he said that the they are ready to be done and “once they knew they were leaving, that was it” (Ertmer, Quinn, & Glazewski, 2014, p. 187). Specifically, Big Jon, one of the SME retirees, had “no interest in slowing down or demonstrating the steps” for Abby (Ertmer, Quinn, & Glazewski, 2014, p. 188).</p>		X	2	<p>According to Andrew, the employees who are retiring are the subject matter experts when it comes to operating the blanker machines. She has determined that she must find a way to document how they are operating the machines within the limitations of the working environment (lighting, noise level, etc.) while maintaining productivity levels. It is clear to Abby that the “blanker operators hold the key” to ensuring that the training is successful (Ertmer, Quinn, & Glazewski, 2014, p. 188), which is why the SME constraint is listed as Priority 2.</p>

1 ID Challenge / Case-specific Constraint	2 Classification ID Challenge Case-specific Constraint		3 Priority	4 Rationale for Priority Number Assigned
<p>Time Constraint:</p> <p>Limited to 90 days to design, develop, and implement the training</p> <p>Abby is faced with designing the instruction, developing the training materials, and implementing the training to three shifts of new blanker operators within a 90-day window. Andrew “reiterated the tight deadline” to Abby, reminding her that the new employees had to be trained in 90 days (Ertmer, Quinn, & Glazewski, 2014, p. 188). This time constraint will prove to be problematic due to many reasons, including:</p> <ul style="list-style-type: none"> • There are no current standard procedures to training new blanker operators • There is no time to develop an entirely new and sophisticated training system • Andrew makes it clear that he cannot lose productivity 		X	3	<p>If Abby does not complete the front-end analysis or determine how to obtain the blanker operator knowledge and skills from the SMEs, the project will not ever be completed. Therefore, the time constrain of 90 days to design, create, and implement the training only takes begs importance after Priority 1 and Priority 2. While the time constraint must be addressed after Priorities 1 and 2, it must be addressed before an instructional delivery system is selected (Priority 4).</p>

Solutions, How They Address Challenges and Case-specific Constraints, Pros & Cons

1 Solution #	2 Possible Solution	3 ID Challenges and Case-specific Constraints	4 How Does It Address the Design Challenge(s) and Case-specific Constraint(s)	5 Pros	6 Cons
1	<p>While it is recognized that the blanker machine SMEs (soon-to-be retirees) “hold the key” to ensuring that the new employee training is successful, it is also known that they are ready to be done [with FDM] and do not show any interest in training the new employees (Ertmer, Quinn, & Glazewski, 2014, p. 188). This is known to be true since the retirees are the only blanker machine SMEs in the plant.</p> <p>Abby, and FDM, need a way to entice active involvement of SMEs in the new employee training process. It is suggested that FDM offer incentives to any SME willing to participate in the training process. Examples of incentives might be:</p> <ul style="list-style-type: none"> • monetary compensation in exchange for contributing their expertise • “Supporting Continued Excellence” plaque recognition <p>Some SMEs will be enticed by physical gains (monetary awards), while others will be enticed by emotional gains (psychological gains). Multiple SMEs per shift will be recruited to help develop, design, and implement the training process for the new employees.</p> <p>SMEs agreeing to participate in the training process will be asked to:</p> <ul style="list-style-type: none"> • List/describe the steps they use to operate the blanker machine. They will do this while watching the video in which they operated the machine. 	<p>ID Challenge # 1:</p> <p><i>Analysis</i> - Define the problem and identify constraints</p>	<p>By meeting with the SMEs, Abby will obtain information towards her front-end analysis. This will include completing a constraint analysis, needs analysis, and task analysis. Through this process, Abby will be more able to clearly define the training problem(s)/need(s) and identify potential constraints.</p>	<ul style="list-style-type: none"> • SME buy-in is more likely due to potential incentives • Abby will obtain more reliable information by increasing direct contact with SMEs • From this information, Abby will be establishing a training foundation from which to build 	<ul style="list-style-type: none"> • Cost to incentivize SMEs • Incentivizing SMEs may attract varying level of expertise • Incentivizing SMEs may attract individuals who ill-motivated to participate
		<p>ID Challenge # 2:</p> <p><i>Design</i> - Selecting an instructional delivery system</p>	<p>During the SME interviews, Abby will have a chance to speak with the SMEs about their experience being trained at the FDM plant. Using the SMEs past experiences, blanker machine operation experience, and opinions, Abby will determine a delivery system that meets the needs of FDM and the new employees.</p>		
		<p>Case-specific Constraint # 1:</p> <p>Lack of buy-in from retiring equipment/plant SMEs</p>	<p>The lack of SME buy-in is neutralized by Abby’s suggestion that FDM provide monetary or emotional incentives to encourage retiring blanker operator SMEs to engage in the design and delivery or the new employee training.</p>		

1 Solution #	2 Possible Solution	3 ID Challenges and Case-specific Constraints	4 How Does It Address the Design Challenge(s) and Case-specific Constraint(s)	5 Pros	6 Cons
	<ul style="list-style-type: none"> Take part in a 1-hour interview with the Abby. Operate the blanker machine in tandem with x (number) of new employees. Each new employee will participate in tandem blanker machine operation for one week as a <i>trial period</i>. <p>Since each new employee will need to complete a 1-week tandem <i>trial period</i>, some new employees will need to start before the previously determined dates. New employee start dates will be staggered, beginning 60 days prior to the final SME retirement date.</p> <p>The interview outcomes and SME documentation of the blanker machine's operational process will contribute to content material for the training process. Once all interviews have occurred and operational processes are documented, Abby will develop and design a tangible job aid(s) to assist the new employees as they operate the blanker machines in tandem with the SMEs. The job aids will utilize the multimedia principle, i.e. a combination of text and graphics.</p>	<p>Case-specific Constraint # 2:</p> <p>Limited to 90 days to design, develop, and implement the training</p>	<p>By utilizing SMEs, Abby is able to work through the design and development phase of the training design process with relative ease. Additionally, she suggests that FDM begin bringing in the new employees sooner than the previously determined start date. This additional time will allow the new employees to participate in tandem blanker machine operation for a full week.</p>		
2	<p>It is accepted that the blanker machine SMEs are the retiring employees, but it is also known that they do not desire to take any responsibility in training the new employees, which is unfortunate since the retirees (SMEs) are the key to ensuring that the training is successful. Abby tried several expected strategies to document how the SMEs were operating the machines:</p> <ul style="list-style-type: none"> Questioning the SMEs (but the plant floor noise levels were too loud) 	<p>ID Challenge # 1:</p> <p><i>Analysis</i> - Define the problem and identify constraints</p>	<p>While some constraints still exist many are greatly reduced. For example, Abby will only need low-level SME buy-in to complete the video recordings. Additionally, by utilizing video, Abby will be able to perform a front-end analysis without impeding on SME productivity. This will include completing a constraint analysis, needs analysis, and job analysis. Through this process, Abby will be able to clearly define the training</p>	<ul style="list-style-type: none"> Instructions are repeatable at no resource cost Video provides flexibility. It can be: <ul style="list-style-type: none"> Paused Zoomed In/Out Re-reviewed Can be accessed easily 	<ul style="list-style-type: none"> Potential cost Quality can be variable Updating can be difficult Large bandwidth need Video editing is time consuming

1 Solution #	2 Possible Solution	3 ID Challenges and Case-specific Constraints	4 How Does It Address the Design Challenge(s) and Case-specific Constraint(s)	5 Pros	6 Cons
	<ul style="list-style-type: none"> Watching the SMEs operate the machine (but it was difficult to see) Attempting to write down the steps of operation (but they were happening too quickly) <p>Acknowledging that expected ways to obtain SME knowledge did not work for Abby, she needs a solution that removes the environmental and attitudinal hindrances to completing a task analysis.</p> <p>To complete a job analysis Abby should utilize video equipment to capture how to operate blanker machines. Abby will need to secure additional lighting due to the poor lighting on the plant floor. This will help ensure that the process steps of the SMEs will be clear to the video viewer. Since the plant floor is too loud for conversation, voiceovers might be included in the video.</p> <p>Not only will the SME videos be crucial to writing out the steps/process for operating blanker machines, they will also be utilized for video instruction during the new employee training. The new employees will go through a series of training sessions before they are tasked with operating a blanker machine on the plant floor. The training sessions will be presentations in which SME blanker operation video segments, collaborative discussion, and modeling will be utilized to promote knowledge transfer and skill development. Additionally, employees will have access to the training materials for future reference.</p>	<p>ID Challenge # 2: <i>Design</i> - Selecting an instructional delivery system</p> <p>Case-specific Constraint # 1: Lack of buy-in from retiring equipment/plant SMEs</p> <p>Case-specific Constraint # 2: Limited to 90 days to design, develop, and implement the training</p>	<p>problem(s)/need(s) and identify potential constraints.</p> <p>Abby will utilize the video recordings to complete her front-end analysis. From that analysis, Abby will be able to clearly define the training problem(s)/need(s) and identify potential constraints. Using this information, Abby will determine a delivery system that meets the needs of FDM and the new employees.</p> <p>The only time that Abby will engage with the SMEs is to record them operating the blanker machines. This reduces the need for Abby to engage with the SMEs. The only thing that the SME must agree to is allow Abby to videotape him/her while he/she runs the blanker machine. The lack of SME buy-in is thus neutralized.</p> <p>By videotaping the SMEs, Abby is able to almost immediately start her front-end analysis. In turn, she is able to begin designing the instruction earlier, developing the training materials earlier, and this implementing the training earlier. The overall process is projected to be completed in 90 days.</p>	<ul style="list-style-type: none"> Orients the new blanker operator to their future environment By filming the process less SME investment/engagement is required 	

Reading(s) to Support Case Analysis

Johnson, A., & Proctor, R. W. (2016). Designing effective training systems. *Skill acquisition and training*.

(p. 268-294). New York: Taylor and Francis.

McNichols, D. (2010). Optimal knowledge transfer methods: a Generation X perspective. *Journal of*

Knowledge Management, 14(1), 24-37. Doi:10.1108/13673271011015543

Discussion Plan

Discussion Objective	Discussion Question/Prompt	Associated Reading(s)	Thread Title	Time Frame (e.g. M-W, M-T, Th-F, W-F, Whole Week)
<p>Identify the needs of Fritz David manufacturing (FDM) and provide an instructional approach to meet those needs.</p>	<p>You recently joined Learning Together Through Training, Inc. (LT3) as an instructional designer. Abby approaches you and asks you to share an example of a training material (job aid, video, presentation, etc.) that you have created, have used, or might consider using as a component in a training context.</p> <p>Also, Abby asks you to create a similar training material to support a possible instructional approach to meet the identified needs of FDM? Do you think this would be a beneficial training component for this context? Why or why not.</p> <p>[Post the training material you shared with Abby to this discussion thread.]</p>	<ul style="list-style-type: none"> • Abby Carlin: Documenting Processes in a Manufacturing Setting • Johnson & Proctor (2016) • McNichols (2010) 	<p>Week 04 Discussion – An Instructional Approach’s Influence on Training Materials</p>	<p>Th-F</p>

Discussion Objective	Discussion Question/Prompt	Associated Reading(s)	Thread Title	Time Frame (e.g. M-W, M-T, Th-F, W-F, Whole Week)
<p>Identify issues in documenting manufacturing processes and pose solutions to obtain necessary information for design.</p>	<p>Abby states that the “blanker operators hold the key to making this training a success. I must figure out a way to document the steps they take in operating the equipment” (p. 188). From this, we know that Abby will need to rely on the experienced retiring blanker operators to inform her instructional design approach. Based on her experience with Big Jon, Abby is struggling to decide how to obtain the blanker operating information from stakeholders who are incapable or reluctant to provide necessary information. Assuming the role of Abby, would you circumnavigate or incentivize the SMEs, and why? Use examples from the readings to support your position.</p>	<ul style="list-style-type: none"> • Abby Carlin: Documenting Processes in a Manufacturing Setting • Johnson & Proctor (2016) • McNichols (2010) 	<p>Week 04 Discussion - Documenting Processes in a Manufacturing Setting</p>	<p>M-W</p>

**Advanced Practices in Learning Systems
Design**

Fall 2017