Creating Learner Interaction at Fort Chickamauga

Synopsis

An instructional designer, Ron Linrock, is tasked with enhancing learner interaction within a military's base internal content management system. He must interpret both informal and formal learner analysis and formative evaluation results. With these results, Ron proposes an effective intervention to improve this current instructional activity that incorporates the best practices that enhance learner interaction within the military base's existing course management system.

Background Information

Fort Chickamauga houses one of the training centers within the U.S. Army Training and Doctrine Command (TRADOC). The overall mission of TRADOC is to support the development, education and training of Soldiers, civilians, and leaders within the US Army. "It is charged with overseeing training of Army forces, the development of operational doctrine, and the development and procurement of new weapons systems" (Wikipedia, 2012a). TRADOC includes 33 schools and centers at 16 Army installations. It currently maintains over 3000 courses for over 400,000 soldiers, over thirty thousand other-service personnel and over twenty five thousand civilians (US Army Training and Doctrine Command, 2012).

TRADOC has six main priorities, including:

- Leader development
- Initial military training
- Concepts and capabilities integration
- Human capital enterprise
- Army training and learning concept
- Doctrine

Overall, TRADOC is "responsible for training and developing the United States Army" (Wikipedia, 2012a) and is committed to constructing "campaign-capable, expeditionary Army in support of joint war fighting capability through Army Force Generation" (Wikipedia, 2012a).

Fort Chickamauga's training center also falls under the guidance of the United States Army Initial Military Training (IMT). This organization was created by an act of Congress in 2009. The mission of IMT is to provide senior-level oversight of training related issues. It is a separate, stand-alone organization with the US Army and falls under the U.S. Army Training and Doctrine Command. Its official mission statement affirms the following:

> The Initial Military Training - Center of Excellence directs and assesses the training, education, and integration of new Soldiers into the Profession of Arms in order to ensure the appropriate level of standardization, relevance and rigor; to support ARFORGEN, and to ensure these Soldiers are prepared to contribute as a leader or member of a team upon arrival at their first units of assignment (Wikipedia, 2012b).

IMT proudly notes the training conducted at a TRADOC center or school "teaches Soldiers about the Army's place in a democratic society, inspires the warrior ethos and introduces the Army values" (Wikipedia, 2012b).

Fort Chickamauga is a thriving community within the state. Since the 1990's, its population has steadily grown. As of the census of 2010, there are 32,183 people, 4,815 households, and 5,215 families living on the military base. The racial makeup of the base is 42.6% Caucasian, 29.3% Hispanic or Latino, 19.5% African-American, 2.8% Native American, 1.2% Asian, and 4.6% from two or more races. Of the 4,815 Fort Chickamauga households, 83.5% have children under the age of 18 living with them, 89.8% are married couples living together, 7.2% have a female householder with no husband present, and 3.3% are non-families. The average household size is 3.27 and the average family size is 3.47. The age distribution is 25.7% under the age of 18, 40.6% from 18 to 24, 32.4% from 25 to 44, 1.2% from 45 to 64, and 0.1% who are 65 years of age or older. The median age is 22 years. The median income for a household on the base is $33,117, and the median income for a family is $32,820.

Chickamauga neighborhoods include pre-existing, new and renovated homes and offer an assortment of floor plans for service members and their families. This neighborhood includes amenities such as game rooms, fitness centers, outdoor pools, several playgrounds, and recreation fields. Within the Fort Chickamauga community, residents have access to outdoor parks, picnic tables, barbecue grills, and 42 primitive campsites. In addition, service members have access to a riding stable. Western riding lessons are offered for all skill levels. Guided trail rides through the scenic mountains are offered on a weekly basis.

The Chickamauga Comunidad Family (CCF) program provides instructional programs to help family members face the challenges of military living. Billed as a family member driven program, community members can learn about the basic skills that are guaranteed to improve the quality of life for the military family member. Workshop topics have focused on family relationships, crisis and conflict management, personal financial planning, coping with deployment, communication skills, planning for emergencies as well as other similar topics. CCF family member volunteers teach several workshops throughout the year.

Case study characters

Instructional Systems Specialist: Originally, in his freshman year at state university, Ron Linrock wanted to be either a minister (Lutheran denomination) or a high school math teacher. He opted for the latter career option. However, after teaching six and half years in an inner city school district, he decided to get a degree in training and instructional design. He recently was hired as an Instructional Systems Specialist at Fort Chickamauga.

Training Instructors: In the Logistics Branch, there are eight training instructors. Patricia Cruz and Hank Daniels are two instructors who teach online courses. Patricia was in the military for 20 years and Hank served in the military for 23 years. Both Patricia and Hank receive excellent to satisfactory evaluations for several of their courses.

Training Technician: Preston Harmon is one of the base's training technicians. In this role, Preston provides support for the training programs and mission at Fort Chickamauga.

Training Administrator: Javier Medina serves as the director of the Fort Chickamauga's training program. He spent 32 years in the military. Seven months ago, he became the director of this program.

Relevant documents

Job duties: Below you will find a listing of major duties for each of the case study characters. These duties were summarized from the US government's Federal Classification and Job Grading Systems (U.S. Office of Personnel Management, 2012).

- *Training Technicians* work in training programs and apply a practical understanding of the training program and its objectives, policies, procedures, and requirements. They also apply a specialized knowledge of and skill in particular aspects of the program. For example, a training technician may be responsible for the planning, direction, and administration of the testing program for a training center. The work does not require full professional knowledge of educational tests and measurements.
- *Training Instructor* is the title for nonsupervisory positions that primarily involve instruction. The training work performed by training leaders is designed to enhance the trainees' knowledge and skill in a "blue collar" occupation. The training typically includes demonstration of proper techniques and methods of the work and evaluation of the trainees' progress under a formal training program designed to update, extend, or improve workers' skills. The training provided by training leaders may also include both on-the-job and classroom training as a part of a formal program to improve the trainees' knowledge and skills to any target level in a recognized trade or line or work, such as an apprenticeship training program. Training leaders may participate in the design of course outlines and training aids by drawing upon their personal experiences and study of trade publications. They also adapt and revise daily lesson plans, develop and administer quizzes, evaluate trainees' progress, counsel students, and resolve informal complaints and minor disciplinary problems.
- *Training Administrator* is the title for positions that involve the administration of training programs. Responsible for planning and carrying out implementation of Training and Doctrine Command (TRADOC), and Department of Army (DA) level commands. Responsible for coordinating training requirements and resources with Joint Service Culture Centers, DOD entities and high level commands. Independently plans and carries out duties, determining the scope and objectives of assignments and resources required, applying originality, insight, and creativity in the identification and resolution of problems and the development of programs and policies. Supervises staff comprised of both civilian and military staff officers.
- *Instructional Systems Specialist* conducts analyses of occupational areas or jobs to determine the requirements for revision of existing instructional systems or development of new training programs, employees. The Specialist plans, coordinates, and develops components of instructional design based on the findings of occupational analysis. The Specialist also reviews and revises instructional materials for courses or occupations in accordance with specific

learning objectives.

Fort Chickamauga course catalog: Popular courses currently offered at Fort Chickamauga include the following:

- *Medical Technician* courses such as: Preparing Patient Tray Service Procedures, Performing Field Sanitation Functions, Initiating Treatment For an Amputation, Conducting a Nutrition Care Facility Security Inspection, and Operating an Oscilloscope
- *Blackboard and Instructional Design* courses, both at the Basic and Advanced levels
- *Automotive Maintenance* courses at the Basic, Intermediate, and Advanced levels
- *Logistics* courses such as Automated Logistical Specialist, Combined Logistics Captains Career, Installation Logistics Management, Interagency Logistics, Joint Logistics, and Logistics Pre-Command
- *Food Service* courses such as: Food Service Management Food Service Specialist, and Food Service Technician

Development of Interactive Multimedia Instruction handbook: In the Scope section of the Department of Defense's Development of Interactive Multimedia Instruction handbook (US Department of Defense, 2012, p. 1), it states:

> This handbook provides background information for the planning, design, development, implementation, evaluation, and management of Interactive Multimedia Instruction (IMI) products. Interactive Multimedia Instruction products include electronic products used in the delivery of instruction or supporting the delivery of instruction. See paragraph 4.2 for a further breakdown of Interactive Multimedia Instruction products.

On paragraph 4.2, the handbook defines Interactive Multimedia Instruction as "a group of predominantly interactive, electronically-delivered training and training support products" (US Department of Defense, 2012, p. 2). It further clarifies that Interactive Multimedia Instruction includes:

> Teaching tools and may be used in combination or individually. Used individually not all Interactive Multimedia Instruction products can be considered interactive, multimedia, or instructional. However, Interactive Multimedia Instruction products when used in combination with one another are interactive, multimedia, and instructional (US Department of Defense, 2012, p. 3).

The handbook specifically lists Interactive courseware, Electronic publications, Simulations, Electronic Performance Support systems, Computer Aided Instruction, Computer Managed Instruction, and Electronic job aids as *Interactive Multimedia Instruction*.

Case Study

Ron Linrock was a bit apprehensive about his meeting with the Training branch at Fort Chickamauga. After since his new job as an Instructional Systems Specialist at the base, all of his assignments have been within the Instructional Systems branch. All of these assignments were quite straightforward and almost exclusively relied on his education and past experience in conducting needs and learner analyses, as well as formative evaluation. He always was fond of these two instructional design phases in his graduate work. Ever since he was in elementary school, his parents always thought he was naturally inquisitive, almost to the point of asking too many questions. While

most of his fellow students entered the Instructional Design and Technology graduate program with the stated interested in wanting to learn more about various "cool" instructional technologies (e.g., Web 2.0), Ron naturally aligned himself with "soft technologies" topics. In fact, he took the advanced Needs Analysis and Educational Evaluation courses as his two electives.

As it turns out, Ron's concerns were unfounded. At the initial meeting, Javier Medina, Fort Chickamauga's Director of Training, complimented Ron about his due diligence in conducting and reporting on his analysis and evaluation reports. Apparently, prior to Ron's arrival at the military base, learner analysis, needs analysis, content analysis, as well as formative evaluation was thought of as activities that needed to be completed according to the corresponding regulation. However, Ron's reports provided in-depth analysis, illustrative graphs, and provided more insight than earlier reports. When Javier Medina found out that the learner interaction with the Fort Chickamauga internal course management system needed to be enhanced, it was no doubt that Ron needed to be involved with this project.

At this meeting, Javier tasked Ron with collecting and interpreting both informal and formal learner analysis and formative evaluation results. With these results, he will then propose an effective intervention to improve learner interaction within the internal course management system. Javier emphasized that this proposed intervention should follow the guidelines outlined in the Interactive Multimedia Instruction handbook. Javier assigned two Training instructors, Patricia Cruz and Hank Daniels, as well as Preston Harmon, a Training technician to work with Ron on this project.

Existing literature on interactive media

With the stated goal of conducting and interpreting needs analyses and formative evaluation results and then, proposing a solution to enhance the interactivity of online modules, Ron first decided to review relevant documents. Since he was a little rusty with current multimedia tools, he reviewed the Development of Interactive Multimedia Instruction handbook (US Department of Defense, 2012). In the *Advantages of Interactive Multimedia Instruction* section, he noted the following:

> Interactive Multimedia Instruction may be a suitable instructional media delivery system for many training objectives. Thanks to the rapid development of computer technology, it is now possible to create, at a reasonable price, new ways of designing and developing educational and training materials. Today, computers can be used to deliver interactive, competency-based, individualized, multimedia instruction. Interactive Multimedia Instruction can tailor instruction to the individual student's needs, be deployable, and provide "just-in-time" instruction (US Department of Defense, 2012, p. 5).

Ron also highlighted one of the "general rules for selecting Interactive Multimedia Instruction as an instructional media delivery system" in his notebook. This rule stated, "IMI training should be considered when there are a large number of students distributed over time and place" (US Department of Defense, 2012, p. 5). Another noteworthy section of this handbook focused on getting "buy-in" from all key stakeholders. The Handbook recommended that:

> It is essential that the user organization "buy in" to the Interactive Multimedia Instruction design and development process. If the user organization disagrees with the proposed solutions or ideas, it is better to find out and make adjustments early in the process. If the user is kept involved throughout the process, there should be no "surprises" when the final product is

> delivered (US Department of Defense, 2012, p. 6).

Ron also had access to most of his class notes. His class notes from his Interactive Multimedia Development course were quite useful. He vividly recalled that the Interactive Multimedia professor continually advocated the importance of developing effective, interactive computer-based instruction. In other words, do not create boring, "page-turner" instructional modules with limited learner interaction. This course also included a unit on interface design. Ron recalled the importance of the *Flexibility* principle. That is, an effective interface should be flexible enough to incorporate all types of users (novice, average and expert users). Another principle that the professor advocated was computer imagination. In his class lecture notes, the professor wrote, "Too often, software designers simply translate an existing design in a "new" computer product. Be sure to use some "computer imagination" in your projects and that your software program takes advantages of the strengths of a computer and digital technologies."

Ron also reviewed his notes from his respective Needs Analysis and Educational Evaluation courses. The Needs Analysis instructor advocated the "quick analysis" technique. In one of his class lectures, he stated:

> I typically do a quick analysis with the client and several of the learners if necessary. The learners and contexts are usually already known. I then develop an instructional strategy, then develop and select instructional materials. Lastly, I follow up with the client and several of the students if necessary on how the instruction was performed.

According to this instructor, this "quick analysis" approach takes place within a week time and is effective for some projects. Another recommendation comes from Ron's Evaluation course. The professor recommended to get buy-in from one's clients and stakeholders, an instructional designers needs to get stakeholders to tell stories about their respective experiences. Essentially, an effective formative evaluation session involves a "storytelling" session amongst its participants. Though Fort Chickamauga's Training division had a standardized approach in conducting needs analysis and formative evaluation sessions, Ron knew that he was likely to apply these informal approaches with this project.

In addition to these existing materials that Ron reviewed, he went online and read a few current blogs related to best practices and not best practices in online courses. One instructional designer wrote, "A Subject Matter Expert and I collaborated on creating in-depth, probing personal journal questions that challenged the learners to pull together the content, the discussion, and potential attitudinal change." Another instructional designer commented that an existing hybrid course was simply delivered exclusively online. The course was composed of online lectures with slides, audio and headshot videos. He wrote, "There is no way to build interactivity in this course without the use of an effective course management system." Another blog reported that a job training aid comprised entirely of PowerPoint slides was particularly ineffective because incomplete needs analyses were performed prior to beginning the project to even determine if the method and media chosen were would be affective in achieving the learning goals. It was simply decided by the client that PowerPoint slide training aid was the appropriate medium and method. It turns out that most learners did not complete or use the training and most learners said that they would have felt more confident understanding the material afterward if they had some face-to-face instruction and corresponding demonstration of the content.

Needs analyses and formative evaluation results

Ron spent the next three months in conducting various needs (learner, content, task) analysis and formative evaluation sessions. Below is a summary of the results of this analysis and sessions.

Overall trainee assessment: Since Preston Harmon's main job, one of base's Training Technician, is to provide day-to-day course management maintenance and also to help students and instructors, Ron focused on hearing Preston's relevant "stories". Preston recounted several negative student comments involving video in particular courses. He said that videos have proved to be very ineffective with this population of trainees. He thought Fort Chickamauga trainees are "very hands on, so online instruction is not really engaging for them." Preston also observed that trainees commented that videos posed issues because they had to sit through the videos to get the information they were looking for and couldn't print it out. Trainees liked the fact when courses are self-paced. Preston recommended having a combination of shorter videos and text with the option to print the information out.

Instructors: Ron consulted with Patricia Cruz and Hank Daniels, Training Instructors several times about their respective content knowledge and their current teaching practices. Hank told Ron about one of his effective teaching practices. He said:

> One method that I used [in his face-to-face classes] was to incorporate PowerPoint slide presentations and textbook reading during the theory/lecture portion. On two or three occasions, I used the "show and tell" method where I had parts or components of a firearm as part of the lecture. This seemed to have been very effective, since the students are getting familiar with what the discussion or lecture was about. They were learning the components not just from looking at the graphics or pictures in the textbook, but they were looking at the actual parts. My students were a group of adults ranging from basic to intermediate learners (and in between), I thought this was a good design or strategy to use to arouse their curiosity and get them more interested in the classroom. I have observed that they were or most of them were fascinated with the subject being discussed.

Patricia also told Ron that an instructional activity that she finds effective was to "engage trainees in discussion at the beginning of the class either during the doctrine and or lab portion. I tried to engage them in discussion about the prior week's topic which helped me gauge if the presentation or lecture was effective or not." Patricia told Ron that she initially did not like the format of an existing online course. She observed:

> The course was a series of video taped "lectures" with a PowerPoint. But, I added quizzes and set them up so that wrong answers took the student back to the relevant content. I highlighted relevant sections on the slides and added definitions as needed. I also have a feedback question so I can modify the course based on the student user experiences. I heard back from trainees and the comments have been overwhelmingly positive.

Instructional Systems Specialists support group: At Fort Chickamauga, there is an established network of instructional systems specialists. This group meets monthly, as well as on as needed basis. At the most recent group meeting, Ron talked with other instructional systems specialists about his current project. Sidney, an instructional systems specialist in his Ron's branch, remarked that he consulted with a training instructor seven months ago in regards to an assignment that she was giving her students. He said that:

> My involvement was fairly minimal, beyond the initial consultation; I posted some materials in base's online knowledge base that the trainees could access anytime while working on the assignment. Aside from fielding a few questions from trainees afterward, my involvement stopped there. This approach proved ineffective in my estimation largely because the trainees failed to follow through with what was required of them. They had three weeks to complete the assignment, and perhaps that was a failing on the instructor's part; too much time can create a vacuum with a large number of trainees. I'm unsure of the instructor's techniques for motivating the trainees, so I can't comment on that aspect. In the end, most failed to begin the assignment until the day before it was due (in some case, THE day it was due), and it was obvious most had not reviewed any of the learning materials they needed to complete the assignment.

Another instructional systems specialist, Marilyn, recounted a similar experience with a training instructor. Marilyn said that she tried to convince an instructor about creating a more learner involvement activity, but did not succeed. The instructor was adamant about learning the most basic way of showing Excel screen shots and writing text "directions" on top of them. When she showed the instructor that he could do a screen shot by pressing function PRNT SCRN on his keyboard, and pasting it into Paint, the instructor was very jovial and proceeded to ask Marilyn to leave because he did not want to do anything beyond this activity.

Ken did share a successful story with a training instructor. He said that he worked with an instructor to reorganize the course topics to make the course content "self-paced" while reinforcing learning by having students focus on asynchronous discussions based on all topics. This approach, combined with broader assessments, ensured that the course could be delivered in a shorter time while trainees were exposed to a broad range of topics and were able to focus on a specific area of interest to them. Mike, another instructional systems specialist, cautioned that instructors would like to use a particular software program or a new technology, but it is mismatched to the particular learning objective. For example, a faculty may be excited to implement a new technology discussed in the Interactive Multimedia Instruction handbook – such as wikis, blogs, etc. – and may go forward with developing a learning activity using the technology for their course. However, it does not always match the existing instruction.

Survey results: Ron reviewed the results of his instructor and trainee survey results. He received a high return rate. 98% of the current trainees completed the survey and 92% of the training instructors completed their respective survey. Highlights from these results include the following. The student survey results with regards to the existing Fort Chickamauga course management courses overwhelmingly indicated that trainees wanted more interactive elements. A common feedback from the trainees focused on a disconnect between the trainees and the "online course experience." Many trainees commented they wished that they had a face or some sort of visual to connect themselves to their respective instructor.

In reviewing the instructors' survey results, Ron also thought it was quite evident that the current training instructors do not feel ready to teach online and many commented that they were not trained in how to effectively teach online. Ron recalled one of the instructional designer's blogs where she was involved with a project where she developed an assessment that demonstrated an instructor understood the basics of using a particular course management system. She developed a process of assessment that involved eight tasks that an instructor must demonstrate basic competence in the particular course management system. Each instructor was asked to complete eight different tasks successfully in an actual online course.

Current Challenges

The primary *challenges* that Ron faces are:

1) Interpreting the best practices of online course development and interactive multimedia instruction.
2) Evaluating the various learner analyses, content analysis and survey results.
3) Proposing a design solution that incorporates the best practices and analyses results, which enhance learner interaction within existing course management system.

Discussion Questions

Respond to the following Discussion questions with regards to this case study:

1) Critique Ron's informal and formal analysis actions and results. Consider and discuss other needs analysis and learner analysis questions that Ron could have posed with regards to this issue. Are there other stakeholders besides the individuals that Ron consulted who should be consider? If so, what questions would you pose?
2) Review the guiding principles and best practices in the US Army's *Development of Interactive Multimedia Instruction* handbook. Does this additional information influence your perception of multimedia production and your role as an instructional designer? If so, please elaborate and provide examples of its influence? If not, explain why it has not changed your perception?
3) Given the various needs analysis and formative results, propose a possible intervention that would enhance learner interaction within Fort Chickamauga' LMS. Describe the particular result or results that Ron received and how it will provide effective learner interactions in future online courses.
4) A couple instructional systems specialists described limited interactions and success with training instructors. What are ways to improve this type of instructional designer and client relationship? If you have experienced this resistance with your own clients and subject matter experts, describe this experience and any efforts that you attempted to rectify this situation.

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