Discovering factors related to motivation, when learners participate in mandatory, work-related, technology training

Project Description

When training is imposed on employees, motivation—a key factor in adult learning outcomes—becomes increasingly important. The purpose of this study was to explore and determine what factors are most important to participants concerning their motivation during imposed, work-related, technology training sessions.

This study included a cross-sectional group of working professionals who have been exposed to mandatory (i.e. non-voluntary) work-related training programs. A survey was developed to capture perceptions from a mandatory technology training session, selected by the participants. The survey also collected information about the type of training, duration, and time since taking the training. The manufacturing organization employees (approximately 10 respondents) answered questions about a common software training. The banking company employees (approximately 8) also answered questions about a common training experience. The other two organizations (IT and Scientific) did not have a common training that all the respondents shared.

Using the literature's overlapping areas: workplace learning, technology training, mandatory training, and motivation, questions were developed and tied to each topic area.

Data were collected between July 28, 2009 and September 8, 2009. Afterwards,

the top factors related to motivation, as described in the literature, were ranked. Additional motivation factors (or lack thereof) are also discussed, as a result of the survey instrument data and analysis.

Research Questions

1. What factors do participants in mandatory training perceive as most influential regarding their motivation to learn?
    a. What factors enhance their motivation?
    b. What factors impede their motivation?

2. What advice can participants offer trainers doing mandatory training to help inspire participants' motivation?

3. What advice can participants offer management [or whomever is requiring the training] about communicating the need/purpose of the mandatory training?

Assumptions

- The participants are part of an imposed training session. The decision to participate in the training was not based entirely on a personal desire.
- It is in the participant's best interest (e.g., related to performance) to learn the material presented in the training.
- In some cases, there could be consequences to not learning the material.
- The participants have a history with (prior experience with) mandatory training, thus may have preconceived notions about its value and effectiveness.

- Participants will be honest / candid while sharing their perceptions.
- Participants will select the training event for their survey answers.
- Multiple organizations will provide learners for the survey, therefore there will be various training events, rather than a common one throughout this study. Some learners--even within the same organizations--may choose different learning events for the survey. When possible, per organization, an attempt will be made for the respondents to select a common training.

Definition of Terms

Mandatory Training

The training is imposed (mandatory), based on organizational direction or need.

Motivation

Quite simply, motivation is a combination of desire and taking the actions necessary to fulfill that desire. ìMotivation refers to individuals' desire to act or behave in a particular manner.î (Buehl, 2005) (p.702).

Workplace Learning

Workplace Learning includes any training or education, where participation is based on employment. The literature subject areas used during my database searches include: professional development, workplace learning and situated learning.

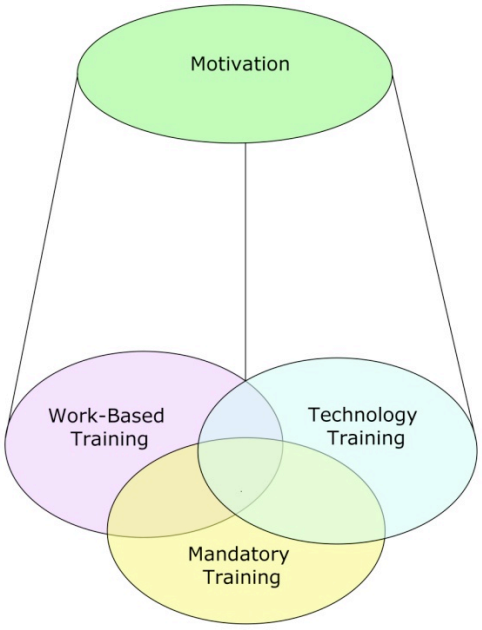
Literature Review Introduction

The first goal of the review of the literature is to establish an overall view of motivation within the adult learning context. Identifying the factors which affect

motivation is the second goal. Next, reviewing literature related to: workplace (work-based) learning, mandatory training, and technology training through a *motivation lens* will identify overlapping motivation factors and any unique factors within specific subject areas.

Reading through the existing literature and analyzing the overlaps provided what I call ìpre-identifiedî factors, which are listed in the Literature Review summary. The survey's intent was to rank any pre-identified factors and also capture any potential ìunnamedî factors**.** ìUnnamedî factors were determined, by appearing consistently as a result of the survey instrument, but these factors did *not* consistently appear throughout the literature review.

Literature Review: Looking Through a Motivation Lens



Several previous works related to technology training, motivation, and workplace learning* were reviewed and considered, as the groundwork for this study.

After initially reviewing the literature, it was clear there has been extensive research related to motivation, workplace learning*, and technology training in general. However, was difficult to locate studies which descriptively and directly discussed how motivation is affected in an ìimposed, workplace trainingî context.

The major subjects used to search for literature included the following: adult learning, technology training, motivation, perception, imposed training, professional development, workplace learning, and situated learning.

The databases searched, include: ERIC, ProQuest, Science Direct, First Search, and the Statewide Illinois Library Catalog. The sources themselves represent a wide range of professions, like: Education, Training, Adult Learning, Psychology, Human Studies, Personnel Review, Information Systems Research, Organizational Behavior, Management, and Human Resource Development. ProQuest was the most fruitful database, while searching with ìAdult Learningî and ìMotivationî as key words.

Motivation

In an adult learning context, several studies and researchers have investigated motivation and its role within various domains: workplace learning, e-learning, higher education, and epistemological orientations. About 40 years ago, motivation research seemed to focus on why adults participated in any training after high school at all (Burgess, 1971). And, although discovering the reasons why adults pursue additional training is important, the focus of this project is looking at a “mandatory workplace setting.” Burgess would have filed these

learners under the “Training to Comply with Formal Requirements” motivation category (p. 3).

Digging a layer deeper, with the understanding that the learner is fulfilling a workplace requirement, Wlodowski (2003) discussed concepts such as the “motivational framework for culturally responsive teaching” to increase motivation during professional development (p. 40). This framework provided a great starting point for investigating whether certain elements (inclusion, attitude, meaning, etc.) are affected, during an imposed training session. Besides being comprehensive, this model considers diversity into the equation.

In addition, almost every other study explicitly or implicitly includes relevancy as a necessity to adult learning motivation. Kopps (1988) and Loorbach. (2007) similarly describe a motivational model named “ARCS” (Attention, Relevance, Confidence, and Satisfaction). Each of the items listed in the ARCS model is attributed with increasing learners’ motivation or efficiency while participating in training programs. Feedback is another important element used to increase motivation during training programs (Loobrach, 2007; Entwistle, 1987).

If motivation is about desire, then it should be no surprise that learners are motivated by such things as intrinsic value (interest), extrinsic value (utility, promotion, goods), and importance (personal value). (Buehl, & Alexander, 2005; Entwistle, 1987; Tsai, & Tai, 2003). These are each related to training because

successful results can lead to any and all of those values. For example, if someone is motivated to learn for the sake of increasing knowledge, then that person is motivated by interest (intrinsic value). On the other hand, if training leads to a promotion in the workplace, which also leads to an increase in salary, then training is valued for extrinsic reasons (money and status). Importance (or perceived importance) also plays a role, when learners engage in training or education. When something is deemed important, then it generally garners more attention. In addition, these elements are not mutually exclusive—it is possible for individuals to really enjoy workplace training, especially if they enjoy and are interested in their profession.

Looking at the rest of the literature through a "motivation lens" helped uncover the overlapping or unique factors, within the following subjects: workplace learning, mandatory training, and technical training.

Mandatory Training

As defined above, *mandatory training* in this study refers to imposed training based on organizational direction or need. Being mandatory assumes there could be consequences (i.e. possible demotion, stagnancy, or elimination) if the employee does not satisfy the requirement. If an employer dictates training because they believe an employee needs certain skills, knowledge, or attitudes to perform in their role effectively or within the law, then it qualifies under the mandatory training umbrella.

According to Baldwin and Magjuka (1991), “In the voluminous literature on training, the issue of voluntariness has rarely been addressed” (p. 29). These researchers then go on to address the issue of importance, which permeates much of the mandatory-related literature. Questions like whether an organization’s training is received favorably overall seemed to come into play and affect perceptions. Additionally, providing feedback (whether in the form of tests, quizzes, grades, or consequences) is equated somewhat to importance, which Baldwin and Magjuka (1991) argue is generally lacking in corporate training.

Others have surmised that mandatory training increases the perception of importance and thus participants are more motivated to successfully complete the training (Tsai and Tai, 2003). These initial findings provide an alternate path from the more popular road proclaiming “people only learn what they want to learn” (Knowles as cited in Baldwin, 1991, p. 29). It is also important to remember that being mandatory does not necessarily eliminate interest in or desire for the skills, knowledge, or attitudes examined.

Technology Training

With each passing day, technology (computer) training becomes more inevitable across every field. With its increasing reach, Llorens and Salanova (2003) described how to deliver more effective training in a computer-aided technology context. In addition, Davis and Yi (2004) discuss behavior modeling as a best practice for technology training, while King (2003) describes technology training

as a transformative process for both the trainer and the trainee. In fact, there are whole books devoted to developing effective technology and multimedia-related training (Clark and Mayer, 2006).

Across much of the technology literature, a common theme—fear—appeared in one form or another. For example, Milbrath and Kinzie (2000) looked at how self-efficacy and confidence relate to technology training, when assessed before the learners engage. They found that as self-efficacy increased, then perceived usefulness [of technology] increased. Similarly, Venkatesh and Speier (1999) look at technology, mood, and comfort level and how it changes over time, among other items (longitudinal study). When participants are in a positive mood at the start of a training session, they found a short-term increase with intrinsic motivation. Both studies demonstrate the interwoven nature of motivation factors, where confidence using technology is tied to mood and perceived usefulness – each of which can then be tied to relevance and interest.

While reading through the research, it was easy to be distracted by the *delivery* of technology training versus learner's perception of technology training. Just because a book explains how to develop e-learning, it does not necessarily mean the content is technology-related. It is possible to teach someone how to bake a pie, by training them online. With that said, learning new technologies to transform adult learning experiences and understanding strategies to incorporate technology into training delivery is also important to consider (King, 2003). The

training associated with this study was both classroom based and web based. After analyzing the data, it is clear that choosing the most suitable delivery method *does* affect learners' motivation.

Workplace Training

According to Fenwick (2006), workplace studies have taken off at such a rapid rate there needs to be an inter-disciplinary consensus of terms, when discussing the results. For example, bankers' attitudes may differ from teachers' attitudes for a variety of different reasons. Fenwick concludes:

> …*I argue for a return in work-learning scholarship to conceptual basics, for greater rigor in articulating theoretical distinctions and justifications, for increased transparency in enunciating terms and purposes, and for deliberate disciplinary bridging to foster critical questions and dialogue about core concepts* (p. 275).

Many of these studies seem to overlap with other areas (e.g. mandatory training), like Gidman, Hassell, Day, and Payne (2007). They used a survey to look at different aspects of continuous mandatory professional development (i.e. Is the training on-the-job? Is the training outside of work? Do learners pay for the training?) They found that a majority of the participants thought the mandatory aspect made sense to continue professional development. In some cases, it was mandatory because of legal reasons (i.e. pharmacy), however some participants noted it was nice to keep them from getting too complacent in general. Most of

these participants disliked evening trainings, and not surprisingly, a majority suggested being paid to spend the time in training.

Another workplace study looked at emotion in the workplace and how it can affect our performance and personal lives (Bierema, 2008). From a training perspective, it underlined the point backed up by other research regarding comfort: “They recognize ways in which emotion inhibits learning for participants, including lack of confidence, fear of failure, fear of others' responses, grief over change, previous negative experiences, and the learner's emotional state.” (p. 61) Bierema suggested that emotions should be discussed and managed by both the facilitator and participants.

Last but not least, Lee (2008) talks about how important relevancy is to a learner’s current job, in the context of workplace training. “To motivate employees to participate in blended learning, employees need to know that the content delivered by blended learning is both relevant and useful to their jobs.” (p. 367) A host of other factors come out of Lee’s article, including tech qualifications and program information (pre-training). For example, Lee argues that learners will give up immediately, if they are not able to work the technology used to deliver the blended training. As noted previously, a similar decrease in motivation occurs, when the learners’ confidence regarding the technology-related content is lower. (Bierema, 2008)

Summary and Potential Factors Affecting Motivation during Mandatory Training in the Workplace

This study has aimed to add to the literature by combining these topics into a common scenario: probing perceptions of mandatory, work-based, technology training sessions. By using the foundations and language of previous research to help guide this study, I was able to build a survey instrument to verify and rank pre-identified motivation factors and add some *unnamed* factors, when considering all of the topics together.

Based on both reading the literature currently presented and using software to count word frequency, the following list includes the “pre-identified” factors affecting motivation during mandatory, workplace, technical training:

- Relevancy
- Importance (perceived importance)
- Technical Self-Efficacy (pre-training)
- Intrinsic rewards & Interest
- Extrinsic rewards (raises, promotion)
- Fear (fear of failing / fear of technology)
- Cost (consequences, time, money)

Methods

Quantitative research principles, as outlined in *Research Design* (Creswell, 2003), informed the design and methods of my project. To study a population sample, without the intent of an experiment (i.e. rotating specific variables), a survey method was most appropriate. The ease of access and efficiency of creating and analyzing survey results were also design considerations. The survey [See Appendix A] describes learners' attitudes about mandatory, employee-based, technical training.

The survey included a mix of fixed and open-ended questions, the latter in order to capture any unnamed factors. It also served to collect data about the pre-identified factors, determined from the literature review (previous research). Seminal research references, such as *The Essential Guide to Doing Research*, (O'Leary, 2004) were also employed for ideas on how to execute the plan. O'Leary provides great insight on how to build better survey questions, practicing with a pilot survey, and refining / redeveloping the survey as it moves forward. Before it was completed, the survey went through four reviews: two with my DePaul advisors and with two of the four companies which participated.

The population was a cross-section of professionals who participated in mandatory, technology-related, work-based training throughout various organizations. Access was provided through contact with the Human Resources department of four organizations. Approximately 100 employees were invited to participate in the research survey, although I do not have the actual number due

to indirect invites through the organizations' Human Resources Department (I received estimates). In total, 48 learners responded to the survey.

The survey was voluntary and it was also confidential. The company names are not used in this study, per the organizations' requests. The type of organizations which participated include: Information Technology, Scientific, Manufacturing, and Banking. The respondent's type of training and job role were also captured for analysis.

Below is a chart, with the research questions included, along with the methods used to analyze the data and related survey questions.

Note: The proposal version of this chart included *data collection method* (survey) and *References* (O'leary and Creswell). Due to space and universal applicability, these columns are no longer visible.

Question (Information Needed)	Analyze Method	Related Survey Question(s) 1.1 – 1.8 first page 2.1 – 2.6 second page
What factors do participants in mandatory training perceive as most influential regarding their motivation to learn? • What factors enhance their motivation? • What factors impede their motivation?	"Linguistic quantification and / or thematic analysis through coding."	1.1, 1.2, 1.3, 1.5, 1.7 2.1, 2.3
What advice can participants offer trainers	"Linguistic quantification	1.2, 1.4, 1.6 2.2, 2.3

doing mandatory training to help inspire participants' motivation?	and / or thematic analysis through coding."	
What advice can participants offer management [or whomever is requiring the training] about communicating the need/purpose of the mandatory training?	"Linguistic quantification and / or thematic analysis through coding."	1.2, 1.4, 1.6, 1.8 2.5, 2.6

Data Analysis

The survey (Appendix A) captures "ordinal data", based on Likert scale questions. (i.e. "1 = Strongly Agree, 2 = Somewhat Agree, 3 = Agree, etc.), along with other types of descriptive data (open-ended, yes-no, and nominal).

Researcher-based (personal) interpretation and word count analysis was used to look for conceptual trends (e.g. how many times did "relevancy" appear?).

Besides synthesizing any conclusive findings, researcher-based interpretation was used to ensure the word frequency data also remained in context.

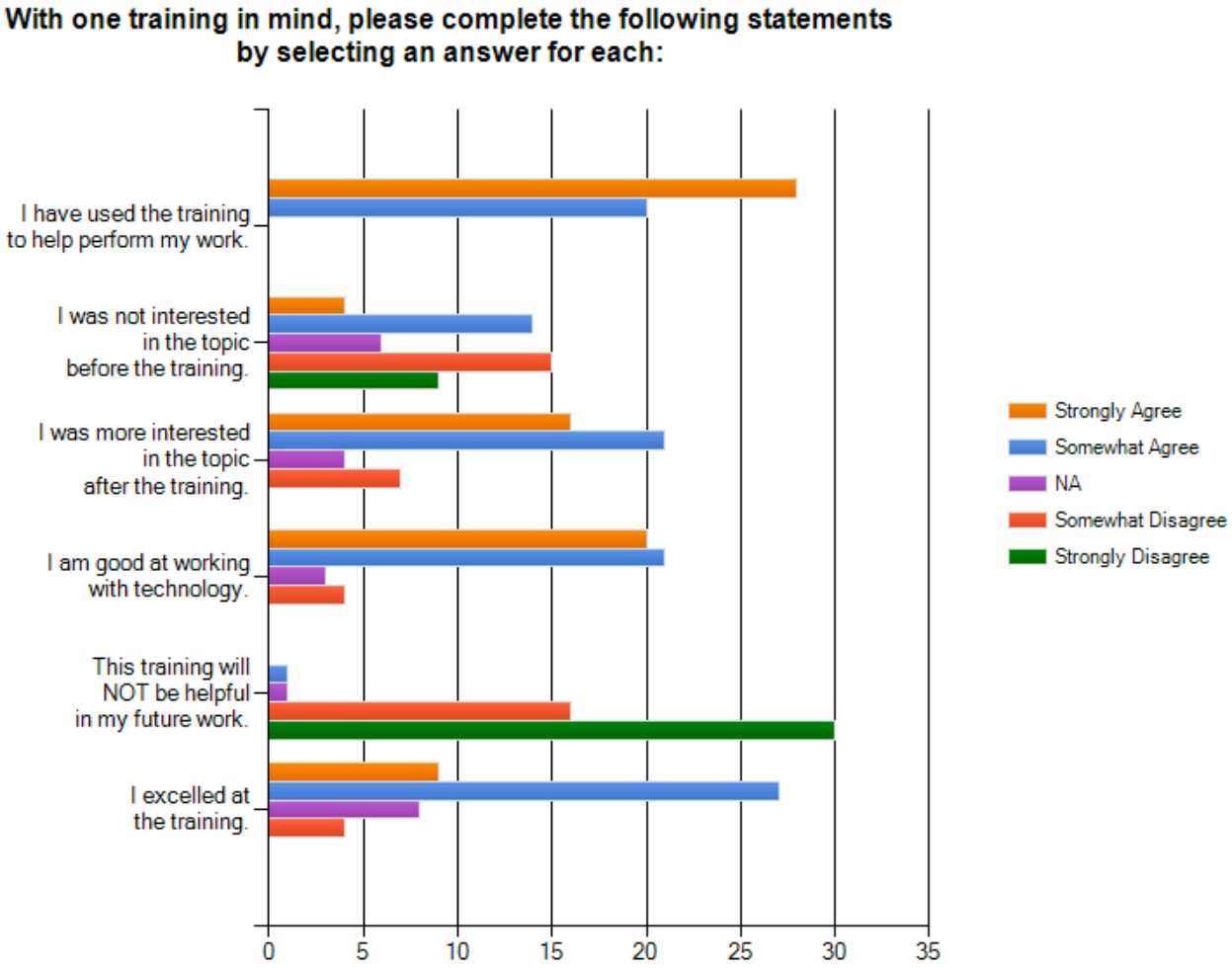
The first question in the survey was broken into six different parts, each part looking at different pre-identified motivation factors listed in the Literature Review Summary (relevance, interest, technology self-efficacy and fear). All 48 participants answered this question, which aimed to give some insight into how they felt about the specific training and their own abilities regarding technology.

- 100 percent of the participants felt they used this training to perform their work (58.3% strongly agreed and 41.7% somewhat agreed.)
- Before taking training, 37.5% of the respondents were not interested in their training topic. However, afterwards, only 14.6% responded they were not interested in the topic. Impressively, 77.1% of the respondents said they were more interested in the topic after taking their respective training.
- In relation to technological self-efficacy, 85.5% of the respondents described themselves as "good (or somewhat good) at working with technology." Only eight percent disagreed, by ranking themselves as "somewhat disagree."
- As before, when worded slightly different, 95.8% of respondents overwhelmingly stated the training was useful for their current work (i.e. relevant).
- Lastly, it's important to understand that 75.1% of these participants stated they excelled at the training.

Looking at the open-ended responses from the survey population, a majority of learners found their training to be relevant, interesting, and successful. This group labeled themselves as comfortable with technology. Interestingly, none of the four respondents who gave themselves a lower rank on technology use were the respondents (four) who ranked themselves lower on success (excelled at training). Three of those four who ranked themselves lower on excelling also

marked themselves as “somewhat not interested” in the topic or “NA.” These types of variable interactions and analysis would be interesting to pursue further, with a more focused look in the future. See the chart below for a graphical reference.

Figure 0-1Question One Responses



The second question was broken into two parts: “Would you have taken the training if it was not mandatory?” and “Did the training need to be mandatory?” A large majority—68.8%—stated they would have enrolled, without the mandatory

attribute. But, even with the high number willing to take the voluntary training, 18 of 32 (more than half) who responded to the second part, still believed their training *should* have been mandatory. That second number rises even further, when answers like, “It should have been mandatory for others” and “Not at my level” are included – each implying that their role or level didn’t require a mandatory requirement, however, for others it should remain mandatory.

Question three asked the participants to rank their expertise with the topic, before the training. Fifty-two percent of the respondents claimed having either “no experience” or “beginner” status beforehand. The remaining 39% and 8% claimed intermediate or advanced, respectively. Looking through the open-ended portion of this question, it is difficult to tie any theme to the level self-assigned by each respondent. However, there were many mentions of “self-taught” throughout (which can be tied to interest or relevance). Following close behind were the terms “observation” and “on-the-job.” Again, this tends to fit with adult learners in general (Kopps, 1988) and also ties to those pre-identified motivation factors listed in the Literature Review Summary (i.e. relevance and interest).

Some of the major points made by respondents to question four–“What could have improved your training experience?” include:

- “Real” exercises / examples
- More time / too much content

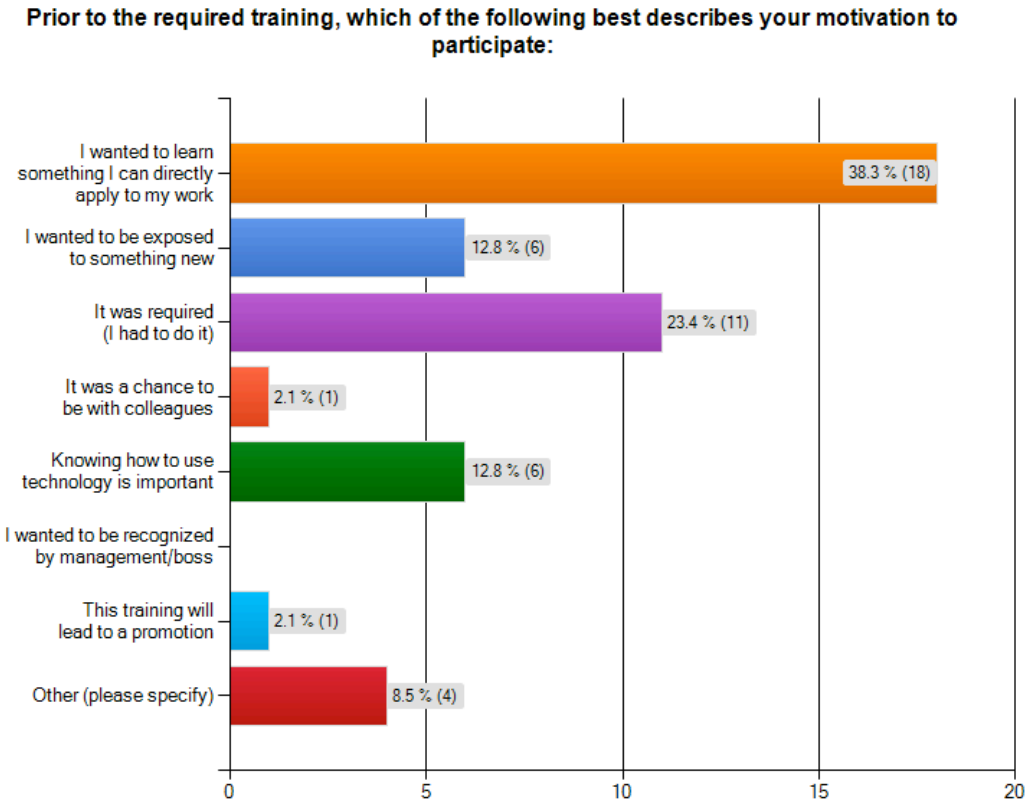
- More “Hands-on” / more practice
- More challenge / more depth / more detail
- More support after training / go-to person / follow-up to questions / printed materials
- Instructors with *real* experience
- Smaller class / more individual attention

It’s clear to see that real experience, like hands-on, instructors who have “lived it”, and relevant exercises, all top this list. Factors like allowing the right amount of time and determining the right amount of content are also important. Individual attention and support are also appreciated by trainees. Also, having resources available to answer questions, whether in the form of a subject matter expert (SME) or set of documentation is key to increased satisfaction with the training experience. One personal observation has to do with something *not* seen here. Surprisingly, nobody listed “technological issues”, like the system crashing or software not working correctly. My experience with technology training is a lot more bumpy – perhaps because many products are not yet fully realized (part of a custom development project). Regardless, ensuring that all of these elements are considered and addressed in the analysis and design phase of course development will help create a more effective session (or set of sessions). My personal advice: include a backup plan, in case technology issues arise.

The fifth question asked participants to choose the main factor which motivated

them to participate in their training. The number one answer, with 38% selected, was “I wanted something I could apply directly to my work.” Coming in second place, with 23%, was “It was required (I had to take it).” Both “Trying something new” and “Knowing technology is important” tied with 12.8% responding for each. Another tie, with 2.1% each were “Spending time with colleagues” and “This training will lead to a promotion.” None of the respondents chose “I wanted to be recognized by management” as a motivation factor. In retrospect, it is possible that the inclusion of the “promotion” choice took the place of recognition. Of those who chose “other”, most tied the reason to their job performance. One simply wrote “mandatory”, which would add to the already second place, 23% category. Looking at these answers from high above, it reinforces the trends starting to materialize, like relevance being at the top and “being mandatory” twice hovering around 30% accounting for participation.

Figure 0-2 Question Five Responses



Two main goals of this study are to: a) rank pre-identified motivation factors and b) identify other (*unnamed*) motivation factors, when considering mandatory, work-based, technical training. Question four is tied directly to these goals, by asking participants to name two or three factors which may improve mandatory technical training at work. After reading through the responses, along with running them through a word frequency analyzer, it's clear that relevancy was top on their minds. Some of the major points made by respondents to improve mandatory training include (listed below in theme-based order):

1. Relevance ("real life" / job-related)

2. Hands-on / interactive
3. Instructor qualities (patience, speed, personality, having answers, experience, preparedness)
4. Incentive (promotion, advancement, food)
5. Interest
6. Resources and support
7. Time allotted and efficiency of training
8. Presentation quality, creativity, “new angle”, fun

After analyzing the responses and developing the themes above, “Instructor” sticks out as a highly-mentioned factor, although not often mentioned in the literature. Note that based on best possible interpretation of question 10, approximately 30% of the training was computer-based. Listed next to the instructor item, are all the attributes related to the category found in their answers. Some of these, like “speed” could be translated and applied to web-based training as well. Even “personality” can be artificially manipulated through the use of sound, graphics, and theme. However, I do not mean to discount the fact that instructor is listed, as some of the requests were *for* an actual instructor (meaning, it was web-based training to begin with).

In addition to reading through the results, the entire answer set for question six was run through analytic software. The most frequent words were calculated and represented in this “tag cloud”, where the most frequent words are displayed in

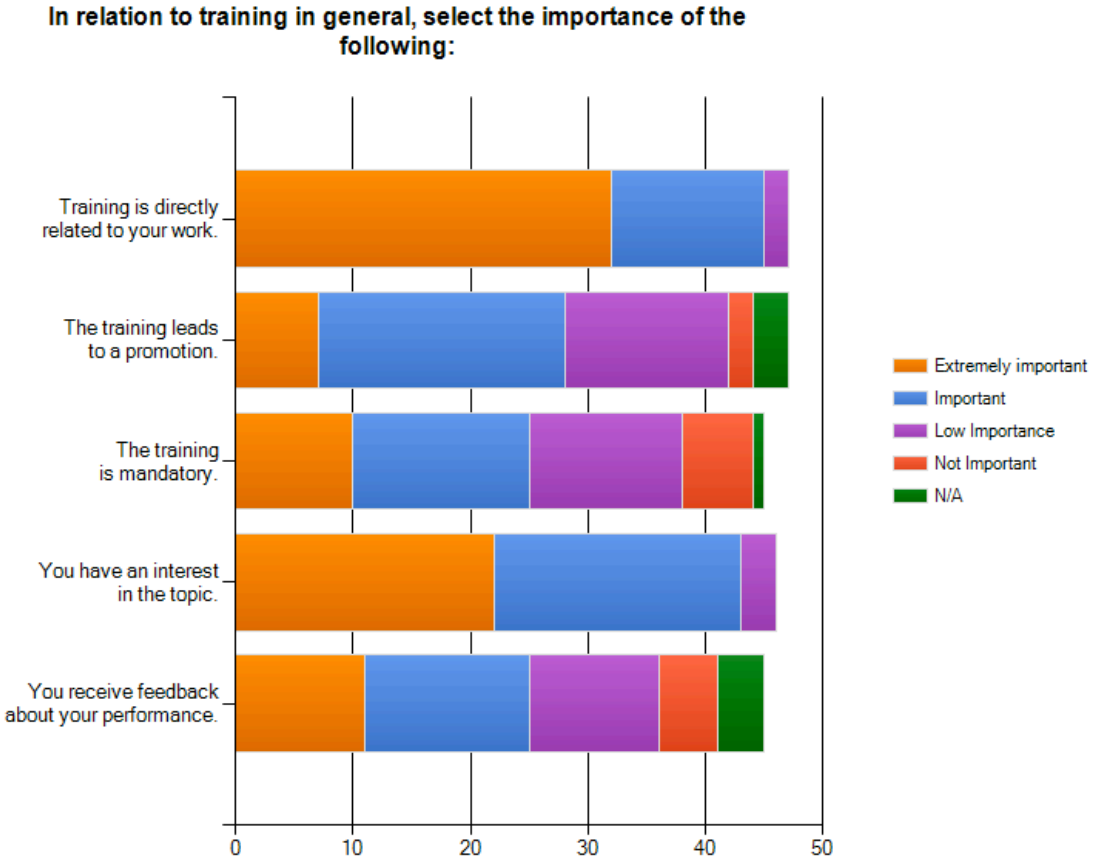
larger font. In the actual software, it's possible to hover the mouse over each word and see the actual count within the document. Below is a snapshot of the tag cloud for question six responses.

Figure 0-3 Question Six Tag Cloud

Question seven addresses several of the pre-identified factors, with a direct request to indicate importance, about training in general. After reviewing these responses, initially I was surprised to see that *interest* was the second highest rated, but this time "hands-on exercises" (or the equivalent) wasn't included in the list. Also, even though "promotion" had the highest number of "low importance" responses, it was also considered higher importance than any time earlier in the survey. Perhaps this has to do with a difference between the

training they actually took and what they would desire in general. For example, it is possible that the specific training most of these individuals took was not related to a promotion, so it wasn't recorded as important for the specific instance inquiries. However when the question type changed to "training in general," the promotion factor was considered more important. Further analysis and follow-up would be needed to determine if this is actually the case. Once again, the fact that training is mandatory polarized respondents to some degree. Being mandatory has a healthy percentage of importance, but it also ranks as the second highest in "low importance."

Figure 0-4 Question Seven Responses

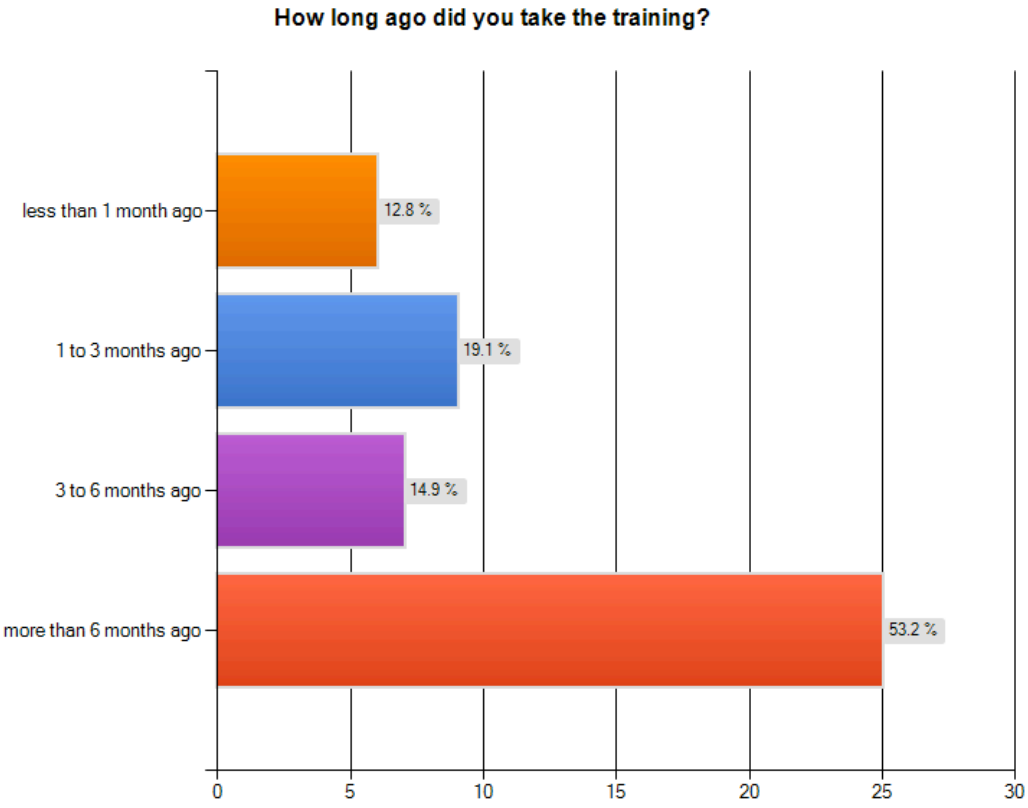


Question eight asked a simple question, “This training was mandatory because: a) I needed to learn this so I could perform my job.” Or b) “Other, please specify.” The respondents consistently stated the training was required to perform (87.5%). Of the other six (12.5%), four of them indicated it was for improved job performance or certification. The other two implicitly indicated that training was probably not necessary.

The second part of the survey (see appendix A), includes background information like the participants’ roles, types of training, company type, time since the specific training, and management involvement.

Question 11 asked “How long ago did you take the training?”, and over half the respondents answered with “more than six months ago.”

Figure 0-5 Question 11 Responses



Besides all the data summarized above, which should provide value to trainers, training developers, and managers alike, there are two questions in section two which deal with management directly. Question 14 asks whether there were consequences for those who do not complete the training. Over half said either "no" or "not sure" or "retake." After those answers, the next highest consequence was a "note to the manager" or "affect review." Basically, there doesn't seem to be much cost or consequence to failure, besides a potentially damaged ego. I would be interested to ask the same question to management and see what types of answers they provide (is there more perception of consequence from their desk?)

Question 15 asks whether Management provided rationale for the training. Over 70% of the respondents indicated their management explained, and about 30% said “no.” After reviewing the responses, the following generalized reasons were provided:

- New system / new way of doing a task for work
- To sell the software
- Annual training
- New skills for line of work (i.e. train the trainer)

Although the first and last items in the list above seem similar, they’re actually quite different. The first item is a means to an end – nothing fundamental is changing about the outcome. For example, a new system is installed for payroll. The outcome remains the same (checks are printed and cashed), and the HR employee needs to learn a new system. The last item is more about learning new skills and providing a “new outcome.” For example, a trainer needs to learn all they can about Waste Management, because they’re going to train a group in that field. In this case, it’s learning a set of skills and knowledge, beyond just a static, work-related task.

In the responses to question six, a modest amount of trainees indicated that a proper “introduction” or “expectations” were important (or could have been improved). Tying the request for expectations & introduction to management

rationale means the instructor or designer needs to have this conversation. Trainers and developers who are in contact with the management can ensure to build the rationale into their product, which will affect many of the factors discussed previously (relevance, incentive, etc.)

Conclusions

Below are the original research questions, with my associated conclusions, based on the data analysis.

1. What factors do participants in mandatory training perceive as most influential regarding their motivation to learn?
    a. What factors enhance their motivation?
        - Relevance and “real life” is appreciated most greatly by participants. This means the training should directly and concretely affect their work. The exercises should be based on real life / work-related situations.
        - Interest in the topic and / or interest in learning technology generally increases the desire to participate in the training.
        - “Being mandatory” actually seemed to motivate all those to complete the training, even though the learners weren’t aware of consequences nor accountable for not completing the training.
        - Extrinsic rewards, like promotion (or even food) was listed as a ‘general’ factor, although not specifically related to the training(s) these learners were asked to chronicle. These sorts of extrinsic

factors came out as a higher factor when asked about training in general.

- As an instructional designer or trainer, it's important to consider how some of the more polarized factors could be manipulated. For example, being mandatory was high on the motivational factor list, but it was also heavy on the "low" end, which means there wasn't a lot of in-between. While this isn't a factor you can change as a designer or instructor, it is possible to focus on the positives and minimize the cost by adjusting factors like time, presentation creativity, responsiveness, relevancy, and external incentives (adding food, highlighting promotions), etc.

b. What factors impede their motivation?

- Although this survey group rated themselves highly in technology self-efficacy, it was apparent throughout the literature review and some of the open-ended responses that "fear" / confidence levels with technology do affect training experiences. For example, one comment from a user discussed their technology comfort level, "We had someone come in and train in groups. Since I'm not that technically literate (computers)....I could have used more one - on - one training."
- Surprisingly, these respondents mentioned little or no issues with technology. But, based on personal experience, technology issues

during training, like connectivity (mentioned only once in survey results) and problems with software will affect motivation greatly. This variable would need to be explored in detail, however, before making any real conclusions.

2. What advice can participants offer trainers doing mandatory training to help inspire participants' motivation?
   - Approximately 70% of the training represented in this survey was classroom-based, and several responses suggested the instructor and attributes the learners desire:
     - Real life experience – An instructor with real life, practical experience (or the ability to demonstrate the topic's applicability realistically to the trainees) was one of the top factors.
     - Pacing – Ensure the class time is long enough or not too long. The learners want an instructor who can pace the course according to the needs (dynamically).
     - Support – An instructor with resources to answer questions and the ability to follow up after the training is complete was desired.
     - Attributes – Several respondents requested an instructor with personality traits like ìanimationî and ìpatience.' ìPreparednessî was also high on the list.

3. What advice can participants offer management [or whomever is requiring the training] about communicating the need/purpose of the mandatory training?
   - Involving management is important, because the potential to build in and be aware of certain factors like rationale, incentives, and consequences

will affect the design and delivery of training.

- The learners recommended providing comprehensive introductions, which explain, why they are required to take the training, how to proceed if they are not successful, and its relevance to their day-to-day work.

Implications

This research looked at factors related to motivation, when learners are participating in mandatory, work-related technical training. The findings aligned with existing research as well as captured specifics, related to the focused context of mandatory work-based technical training. Trainers who either develop or facilitate work-related training will benefit by becoming mindful of these motivational factors.

Developers and facilitators need to prepare appropriately and try their best to include elements which stimulate relevance, interest, and highlight any extrinsic rewards. A couple of other important factors related to these circumstances (and surely others) include the delivery method and technology itself. Is there a difference between web-based motivation and classroom-based? This study only looked at "technical training" and did not separate the delivery method. My initial hunch is that there is not much difference due to the universality of most concepts presented. But because certain open-ended responses specifically asked *for* an instructor, it highlights delivery as a key design decision.

Drawing on my past experiences as a corporate facilitator and learner helped me analyze and understand the data. This data and research could help others who are developing or facilitating this type of training. By providing a set of factors which could be manipulated to increase effectiveness or providing a jumping off point for more in depth research, this study could help others involved with workplace training create more successful offerings. I anticipate this study will add to the already-existing body of research for others to delve even deeper, and I hope it can lead to a guide of practices to help those in charge of training address the needs and wants of the audience as best as possible.

As a follow-up and because of constraints in this study, I would suggest including learner interviews and critical incident journaling, as employees progress through a mandatory training program. This sort of data capture would provide a richer set of qualitative analysis. Doing so could really enhance the *unnamed factors* portion of this study by allowing even more chance to spot any trends in these sorts of training sessions. Also, because over half the respondents' training was over "six months ago" (Survey question 11), getting a group of trainees to answer questions immediately before and after a training course would help provide more timely perceptions.

Finally, several other questions were raised throughout the data analysis, which would benefit with more research. For example, most of the respondents did not feel that management communicated or established consequences for

completion of the mandatory training. Creating a study which captures management's perceptions regarding a mandatory training and its consequences (in addition to participants') could help fill this potential gap in communication. Last but not least, this study looked at both a specific training for the learner, as well as asked questions about training "in general." The difference of importance between factors, like 'training leading to a promotion' were highlighted when looking at two different domains—training in general (TIG) vs. specific. This difference made it a little more difficult to 'rank' the data, but the open-ended questions also helped give me a feel for what the learners wanted (word counts, etc). I believe that these factors could be studied as a group, in the TIG domain, with a great amount of success. Other variable interactions, like how *interest in the topic* and *technology self-efficacy* affect the learner's outcome could be jumping off points for continued research.

The implications of this study include starting a conversation and awareness of motivation factors in this specific context: mandatory, technical, work-based training. But it also creates a set of jumping off points to other areas of research, which may already be in-progress or completed. In other words, it appears that this study is but one connecting piece of the puzzle, where some pieces themselves may be puzzles.

Personal Reflection and Project Inspiration

I stood in the front of the room, with my palms sweating and nerves revved up as

high as they've ever been. Trickling in the room were all different types of people, young and old, shy and talkative. I nervously announced, "There's coffee and bagels in room 310." A few people got up and walked down the hall to what we call here "an incentive." It was my first day as a *real* trainer. Sure, I had been enrolled in DePaul's SNL Graduate program for almost a year now. I had a lot of tools at my disposal, but I wasn't told it would feel like *this*! Maybe it's just me. Maybe my thoughts like, "They're going to trip you up. *You* shouldn't be telling *them* how to do things. They don't want to be here!" were louder in my head than in theirs. Truth be told, that was most likely the case. After surviving the first day, I realized that I could be a trainer. I did have something to offer, however, it was more about what we could do together, than what I brought to the table. Each training session became a mini database of sorts – a collection of experiences that I could pull from to aid the following experience. After a while, I realized that a lot of people had the same questions, and I was getting better at answering them. But, over my nine months training teachers and principals in New York, in the back of my mind, I wondered what else I could do. I wondered if there were ways I could make mandatory technical trainings like these, more interesting and effective. Of course, when you're thrown into the situation, you do the best you can. You don't necessarily have time to perform research about what you're doing – you're living it!

Fast forward two years. Here I sit with the bulk of my research complete. And, just like anything else, this "end point" is really just the beginning. Once again,

theory is just that. It's not worth the paper it's written on, unless you actually use it.

Abstract

A lot of studies have looked at Motivation and how it relates to adult education and training in general. This study looked at a specific scenario, often found in the workplace: mandatory technology training. Based on training research in overlapping areas (Technical Training, Workplace Learning, Motivation, and Mandatory Professional Development), a survey was developed to capture perceptions related to mandatory, technical training in the workplace. Forty-eight professionals from a variety of industries (Information Technology, Manufacturing, Scientific, and Banking) provided insights based on personal training experiences. Using open-ended questions and fixed responses, the data provided a more focused look into motivation factors within the specified context. Relevance, interest, and extrinsic rewards were the top motivation factors, which aligned with the referenced studies. Additionally, delivery method effects (instructor versus web-based training) and the surprising lack of technological issues were noticed in the results (including fear of learning technology and the technology not working, etc). Other data related to: management involvement, technology self-efficacy, and perceived importance were collected and analyzed. When designing and facilitating mandatory, work-based, technology training, it is necessary to incorporate relevance, stimulate interest, and make sure that any potential reward(s) are highlighted. Additionally, always consider the audience and content when making delivery decisions (classroom vs. web) to make the

best choice possible.

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Jackie, D. (2006). How adults learn from self-paced, technology-based corporate training: new focus for learners, new focus for designers. *Distance Education, 27*(2), 155.

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Milbrath, Y.-c. L., & Kinzie, M. B. (2000). Computer technology training for prospective teachers: computer attitudes and perceived self-efficacy. [Feature Article]. *Journal of Technology and Teacher Education, 8*(4), 373-396.

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Appendix A

Survey and Survey Responses

Appendix B

Annotated Bibliography
Below is a list of sources reviewed for the purpose of building a literature review. Most sources have a summary, critical comment, and/or perceived relevancy Related to "Motivation Factors for Mandatory Technical Training in the Workplace."

Relevancy 1 – 3

3 = Highly Relevant
2 = Somewhat Relevant
1 = Low Relevance

MANDATORY TRAINING

Tsai, W. C. and W.T. Tai (2003). Perceived importance as a mediator of the relationship between training assignment and training motivation. *Personnel Review* 32(2): 151-163.

This study investigated the link between perceived importance and whether the training was voluntary or mandatory. Because the study was conducted in Taiwan and revolved around banking, it would be interesting to find a similar study performed in the USA, which has replicated the results. The conclusion of this study stated that if the training was mandatory, then the participants were more likely to perceive importance and become more motivated to succeed in the program.

Baldwin, T. T., & Magjuka, R. J. (1991). Organizational training and signals of importance: linking pretraining perceptions to Intentions to transfer. *Human Resource Development Quarterly, 02*(01), 25 - 36

Summary (What do I want to remember?)
This report seemed to conclude that employees were motivated by perceived "importance." When training or an initiative was deemed "mandatory", then its perceived importance increased.
Another interesting point made was that in Academics, grades, tests, and evaluation of results are highly important, but training in the industry domain doesn't seem to hold the employees to the same standards. Employees are aware they will not face post-training evaluation and thus they are less motivated. "In the voluminous literature on training, the issue of voluntariness has rarely been addressed." A well-established tenet of adult learning is that "people only learn what they want to learn"(Knowles, 1978).

The mandatory aspect of this study seemed to challenge the assumption that those who choose their own training are generally more motivated. However, this was inconclusive, because the overall view of training at this organization was either favorable or highly favorable.

Critical Comment
My gut reaction to this study is that it seemed short. I would have liked to see all the survey questions they used. I like the simplicity though, which is encouraging and helpful while still designing my own study. The question about whether the employees generally like training at their organization seems important as well. Are they pre-disposed to dislike both mandatory and voluntary training anyway?

Relevancy (3)
If anything this study backs up my "claim" that it's difficult to find research related to mandatory vs. voluntary training. It's also very helpful in relation to what they found affects motivation. This study overlaps all the topics looked at in my study: motivation in mandatory workplace training. It doesn't really define "motivation."

Gidman, W. K., Hassell, K., Day, J., & Payne, K. (2007). The impact of mandatory continuous professional development and training to deliver the new contract on female community pharmacists: a qualitative study. *Pharmacy Education, 7*(3), 223-233.

Summary (What do I want to remember?)
Quote from Study: "Finally, one of the key findings from this study relates to career intentions. There has been much speculation on the effect of mandatory CPD on participation rates in the workforce (Farhan, 2001; Attewell et al., 2005b). This study suggests that few interviewees were planning to give up pharmacy as a consequence of CPD."

I want to look up the study referenced here, relating to mandatory training (Continuous Professional Development).

Critical Comment
I liked that the survey instrument was included as a reference. This study is tailored to female pharmacists, and the structure (semi-structured interview) provides a very wide range of responses. Although, this makes it a little more difficult to apply to my study.

Relevancy (2)
Because this is associated with a female-only population, it must be noted. The intent of this study was related to a specific program (pharmacy continuing development) and it found that mandatory training in that area deterred some women. The sample was 30 women, which makes it difficult to generalize (also mentioned in the study shortcomings). What's interesting here are factors like

whether training is done on-the-job or outside of work. Is the training something the learners pay for? In this case, the program was outside of any organization and more about the profession itself. This must be kept in mind, when defining the type of training in my study.

TECHNOLOGY TRAINING

King, K. P. (2003). Learning the new technologies: strategies for success. *New Directions for Adult and Continuing Education,* 49-57.

Adult educators have a need to learn new technologies and transform adult learning experiences. Making informed decisions, they can change their own perspectives, as well as enrich their learners' experiences. This article details the transformative journey of adult educators (related to learning new technology) and also highlights strategies to incorporate technology into their training delivery.

Davis, F. D., & Yi, M. Y. (2004). Improving computer skill training: behavior modeling, symbolic mental rehearsal, and the role of knowledge structures. *Journal of Applied Psychology, 89*(3), 509 - 523.

This article states that behavior modeling is the "established, best practice" for computer skills training. A training intervention is introduced to improve upon the existing training practice: Symbolic Mental Rehearsal (SMR).

Llorens, S., Salanova, M., & Grau, R. (2003). Training to technological change. *Journal of Research on Technology in Education, 35*(2), 206-213.

This article introduces training, related to technological change and how to create effective training in a computer-aided technology context.

Finnis, J. (2004, July 1). Myths and facts of learning technology. *TechLearning*.com. Retrieved November 8, 2007 from http://www.techlearning.com/story/showArticle.jhtml?articleID=22101447

TechLearning.com provides current information about new products, technology trends, and educational news to educators, technology professionals, and administrators (or anyone interested in learning technology). This article aims to provide an overview of learning technology (its role, abilities, and trends), as well as dispel some of the most pervasive myths regarding educational technology today. Its well written, easy-to-read format sums up several concepts quite

nicely. The beginning of the article discusses what learning technology can and can not do, for example:

Learning Technology does not obviate the need for work on the part of the learner. It is not yet possible to download knowledge and experience directly into the brain. To understand something we must engage with it, a process which requires effort.

Learning Technology does not obviate the need for work on the part of the educator. Delivering content electronically does not automatically transform it into an effective aid to learning.

The remaining sections of the article discuss how learning technology affects: Learning environments, accessibility, different types of learners, blended learning, reusability, interoperability, deployment, and effective learning technology. Not every question has an immediate answer, for example, how reusability will be embraced by educators. But, he does describe this as an area for further research. The author introduces two new roles: the "instructional designer" and "learning technologist", who have emerged to bridge the gap between educators and technology implementers. Providing some more concrete examples with real products might have been more useful to illustrate these ideas. Overall, this article presents a strong set of concepts, which are backed up with references. It concludes that learning technology is expanding opportunities to learn, and increasing the necessity to learn throughout our lifetime.

Clark, R. C., & Mayer, R. E. (2006). *E-learning and the science of instruction: proven guidelines for consumers and designers of multimedia learning*.

Milbrath, Y.-c. L., & Kinzie, M. B. (2000). Computer technology training for prospective teachers: computer attitudes and perceived self-efficacy. [Feature Article]. *Journal of Technology and Teacher Education, 8*(4), 373-396.

Summary (What do I want to remember?)
Factors to keep in mind, when determining how successful / motivated learners are with technology training: a) how comfortable are they before the actual training b) how long have they been exposed to this technology training? What is a learner's perceived self-efficacy with the technology? How long have they used this sort of technology? In addition, the more they've been exposed over time, the better the attitude.

Critical Comment
This study is dated. Technology has changed so much since the early 90's it may

affect the outcome. However, the basics are sound and seem detailed.

Relevancy (2)
I think the factors of how much previous exposure to the TYPE of technology is important, along with their perceived self-efficacy. This is good to keep in mind, when building the survey(s).

Jackie, D. (2006). How adults learn from self-paced, technology-based corporate training: new focus for learners, new focus for designers. *Distance Education, 27*(2), 155.

Summary (What do I want to remember?)
"The learning starts and is sustained by metacognition."
Having quizzes and checks is important and imperative for learners to self-check where they are in the learning process.

Critical Comment
This is a qualitative research, based on a lot of really valuable prior research. My initial impression is that it started out with the hunch and backed itself up. I also noted that it included seven people in the study, which is relatively small. I also wonder if the methods forced learners to "learn" the material better. There may be no way around this, but I believe that the researchers should have mentioned this.

Relevancy (1.5)
Some of the questions and considerations discussed in the conclusion will be helpful, when thinking about corporate, technical training. It's important to know the type of training (facilitated by instructor, self-paced, online, etc). This does affect *how* people learn, although this study doesn't really highlight differences from other methods.

Venkatesh, V., & Speier, C. (1999). Computer technology training in the workplace: a longitudinal investigation of the effect of mood. *Organizational Behavior and Human Decision Processes, 79*(1), 1-28.

Summary (What do I want to remember?)
If the technology seems useful to productivity and thus their ability to increase the chances of extrinsic reward, then motivation for training increases (extrinsic motivation). In addition, some people find using the computer technology satisfying outside of any result (intrinsic motivation).
This research cited Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, **22,** 1111–1132. Overall, it's important to note that mood may affect someone's short-term motivation positively and negatively,

when beginning workplace computer training. Keeping in mind someone's intention of the training (did they want to take this to boost performance?) Do they like using computers / technology anyway? These are questions to consider.

Critical Comment
This research was extremely thorough and used a relatively huge number of sources. I found the data analysis to be quite complicated. These researches did a great job writing and explaining their approach though, considering all the moving parts. I think this is an interesting study. I would like to read more about how they looked at long-term mood. Based on my initial thoughts related to "long term mood" I believe a lot can happen outside of a training to affect this sort of variable.

Relevancy (2)
This research used many previous studies to back up its claims and direction. It might be possible to use some of their references for more insight. Also the fact that "mood and intention" factor into motivation is important to note.

WORKPLACE LEARNING

Bierema, L. L. (2008). Adult learning in the workplace: emotion work or emotion learning? [Feature Article].

Summary (What do I want to remember?)
Emotional intelligence and the way we hide / handle them in the workplace affects our performance and personal lives.

Critical Comment
This was a summary of others' research and seemed to generalize that "emotion is important."
The training paragraph was interesting, as it expressed the importance of trainers to understand emotion's role for both the trainee and the trainer. It advocated making training a safe place to manage change and expectations and for disclosure of one's feelings about what's happening.

Relevancy (1.5)
Although this is about workplace learning, it didn't seem to have any practical implications to my research. Emotions are a part of every aspect in our life. This article was extremely interesting – especially about flight attendants ('acting' a certain way, no matter what their true emotions) and fire fighters – remaining calm in the face of danger.

Lee, D., Frenzelas, G., & Anders, C. (2008). Blended learning for employee training: influencing factors and important considerations. [Feature Article].

International Journal of Instructional Media, 35(4), 363-372.

Summary (What do I want to remember?)
The push and pull strategies for motivation were interesting and seemed to overlap with other studies in the literature review. Relevancy to their job was a key to success / motivation. Monitoring progress / testing was also a factor listed here. “Pull” strategy involved giving employees information prior to the training, in an effort to motivate them to succeed. Making sure the employees have the proper tech skills to partake in the training was listed as important. Also, the location of training was listed as important.

Critical Comment
This paper summarized previous research and declared the need for more study into blended learning. It was interesting and very high-level.

Relevancy (2)
Ironically, this paper’s relevance is that *relevancy* to a learner’s current job is a key factor in motivation. It also will be important to note that location, tech qualifications, and supplying pre-training information all relates to motivation when training in the workplace.

Fenwick, T. (2008). Workplace learning: emerging trends and new perspectives. [Feature Article].

Summary (What do I want to remember?)
This “article” / chapter looks at learning in the workplace as a result of practice-based activities--not as a result of specific training programs/enhancements. The three areas in this chapter are practiced-based systematic views, literacy and identity, and power and politics in work-related learning.

Critical Comment
This chapter explains the need to study these perceptions of workplace learning further. It’s an interesting look at different ways we continually learn, while just doing our jobs and the role that power, politics, literacy and identity play in learning at work. Because this is more of an introduction to the perspectives, there really isn’t much to leverage off, unless it is determined to continue to research/study along the same lines.

Relevancy (1)
Because this article doesn’t really look at training programs directly, it’s not as closely related to my study. However, some important insights, related to how identity, power, and politics affect workplace learning are discussed. (e.g. Will miners want to use joysticks to move heavy equipment? Would that affect their perceived identity?)

Fenwick, T. (2006). "Tidying the territory: questioning terms and purposes in work-learning research." *Journal of Workplace Learning* **18**(5): 265 - 278.

This article discusses how “work-related learning” research is increasing, but the definitions of “learning” and “workplace” are rarely defined. A review of 10 different academic journals with articles from 1999 – 2004 were used for this study to shed light on how different fields (psychology, education, business, etc..) use the same terms in different ways. Does there need to be a consensus around work-learning researchers in what “work/workplace” really means? Similarly, is there a need for a consensus among researchers related to what “learning” in the workplace means?

…I argue for a return in work-learning scholarship to conceptual basics, for greater rigor in articulating theoretical distinctions and justifications, for increased transparency in enunciating terms and purposes, and for deliberate disciplinary bridging to foster critical questions and dialogue about core concepts.

Kirschner, P. A., J. Sweller, et al. (2006). Why minimal guidance during instruction does not work: an analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist* **41**(2): 75-86.

This article points out that research has shown that minimally guided instruction (especially for “beginner levels”) does not enhance or increase learning outcomes. In fact, in some cases, it will diminish learning. It goes on to hypothesize when/how minimally guided instruction may have “taken off.”

Down, C. (2001). Learning for transfer--a theory of situational learning. *Australian Vocational Education and Training Research Association (AVERTA)*, Adelaide, Australia.

This paper discusses the importance of shifting teaching and learning from a product-based activity to one in which the learners and teachers are actively pursuing the same goal. The author argues that teachers cannot “teach” anything and it’s also impossible to “motivate” someone. The best a facilitator can do is create a challenging, interesting, and comfortable environment for students to learn.

MOTIVATION

Loorbach, N., Karreman, J., & Steehouder, M. (2007). Adding motivational

elements to an instruction manual for seniors: effects on usability and motivation. *Technical Communication, 54*, 343-358.

Summary (What do I want to remember?)
This article looks at three different elements, related to motivation in regards to technical documentation (an instruction manual for a cell phone). The research was aimed at those between 60 and 70 years of age.

The elements observed were effectiveness, efficiency, and satisfaction. These researches used an "ARCS" model to introduce motivational elements into the documentation. ARCS stands for Attention, Relevancy, Confidence, and Satisfaction. Building in feedback is necessary, as part of the model. For shorter programs, the most important factors for motivation include Attention, Relevance, and Confidence (backed up by other research).

Critical Comment
The research here was set up with a control group using motivational elements in an instruction manual and others whose manuals did not include motivational elements. Surveys were used, created from an "adapted and translated version of the Instructional Materials Motivation Survey." This study is one of the first I've seen so far, which lays out four hypotheses and tests against them all. It seems as though the authors had the results thought out, and they were surprised in a few instances. This is something I'm trying hard not to do, and the fact that they explain the process is a good thing. It's much better to be transparent about what you believe, rather than nudge your way towards an expected outcome.

Relevancy (3)
This study has some wonderful background research associated with increasing motivation and effectiveness for instruction / training. Although this study is about an instruction manual, the core principles of motivation were originally intended for training programs and thus translate well to this study. I intend to search for more about the ARCS (original) study.

Crone, I., & MacKay, K. (2007). Motivating today's college students. *Peer Review, 9*(1), 18-21.

Summary (What do I want to remember?)
Students today (college age here) have an increasing need to help develop their own educational path. This paper discusses the importance of the "power dynamic" with younger students (or at least to "respect" it). The "younger generation" seem to have experienced an increased amount of attention at home and continue to expect that sort of attention in the education environment. "Structure, direction and praise" are sought more from this generation, than earlier students.
Other factors contributing to students' motivation:

- Diversity
- Being comfortable with group learning
- Experiential learning outside of classroom
- Persistent inquiry, where students are able to see and reflect on their assumptions

Critical Comment
This is a “light” article from a specific college about motivating a new generation of students. Several organizations findings are cited, but this is by no means a research article. Some principles are listed here with some common sense advice and interesting notes about younger college students.

Relevancy (1.5)
Motivation here is discussed with respect to keeping younger college students engaged with studies, rather than just work and social life. The importance of principles, like Experiential Learning seem to overlap with other, more researched-based studies.

Buehl, M. M., & Alexander, P. A. (2005). Motivation and performance differences in students' domain-specific epistemological belief profiles. *American Educational Research Journal, 42*(4), 697-726.

Summary (What do I want to remember?)
Right off the bat, this research talks about self-efficacy and “importance” being related to motivation and performance. The study was created to look at epistemological beliefs and its relation to motivation. In other words, a learner’s view of knowledge beliefs about the nature of mathematics knowledge may affect their motivation to acquire and manipulate knowledge related to mathematics. “Motivation refers to individuals' desire to act or behave in a particular manner (Weiner, 1992).” “Expectancy-value” theory is looked at here and is basically the same as “confidence” and/or self-efficacy (previously mentioned in ARCS model).

Wigfield Expectancy-Value theory:
- Intrinsic value (interest)
- Importance value (personal value)
- Utility value (extrinsic value)
- Cost (negative aspects)

Learners “who believed more in the isolation and certainty of knowledge, as well as authority as the source of knowledge, had lower levels of motivation and task performance.”

Critical Comment
This study used a variety of pre-developed (other research) questionnaires and

factor analyses, which tied directly to their research. The research questions about knowledge belief and the theory of motivation used enabled them to look at the results through this perspective.

Relevancy (2.5)
The studies related to motivation should be investigated further and built into my own research.

Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. Contemporary Educational Psychology, 25, 68-81.

Entwistle, N. (1987). Motivation to learn: conceptualizations and practicalities. *British Journal of Educational Studies, 35*(2), 129-148.

Summary
This work presents a review of several different education / motivation theories and how they relate to one another.

Motivation sources:
- Intrinsic (interest)
- Extrinsic (competence)
- Affiliation (impress teacher, parents, gain certifications)
- Fear of failure
- Pursuit of success

Techniques:
- Feedback
- Relevance
- Progress / Enjoyment
- Interest & Curiosity
- Personal
- Paradoxes for discussion
- Encourage relation to learners' interests
- Explain goals and targets
- Problem-solving by personal example
- Encourage meta-cognitive awareness (learning strategies)

Critical Comment
This was a comprehensive view of different albeit, dated motivation theories. And, even though they're considered "dated", most of what is mentioned in this review stands the test of time. I enjoyed reading through this article, and I especially appreciate the "techniques" section, which helps professionals apply all the theory they read about.

Relevance (3)

All of this is great reference material, related to Motivation overall and will be a great building block, when developing the survey instrument for this study.

Boshier, R. (1977). Motivational orientations re-visited: life-space motives and the education participation scale. *Adult Education Quarterly, 27*(2), 89-115.

Summary
After reading through this research, what sticks out most is the two types of learners identified: those who learn to "cope" (i.e. overcome a deficiency) and those who learn to grow (i.e. interested in expanding). Life-space oriented people learn to grow, as an expression. Where life-chance people learn to survive / cope / acquire necessary skills.

Critical Comment
This study is dated and difficult to read.

Relevance (2)
How does workplace, mandatory technical training fit into this study? Can a workplace, mandatory training fit into both "interesting" and necessary? Is there a way to make sure that both is covered in the beginning so people of "both orientations" are satisfied?

Sims, R. (2008). Rethinking (e)learning: a manifesto for connected generations. *Distance Education, 29*(2), 153-164.

Summary
In an attempt to challenge educators to expand and innovate, this article discusses how e-learning is becoming so pervasive, that we may need to remind ourselves to take advantage of technology. In other words, for the last 30 years, not a lot has changed with teaching and learning and using technology. But, with the ever-increasing social environments, like facebook, myspace, second life, etc. it's becoming apparent that new ways to interact, understand, and learn from one another need to be pushed forward. The importance of *teacher* is lessening, as the importance of collaboration, contextual, and connectedness increase.

Critical Comment
The author has a lot of experience and does a great job summarizing the timeline of e-learning.
Many sources are cited, which adds credibility, and the entire article is easy to read and understand. As a motivational piece for learning developers, this is great stuff.

Relevance (1.5)

Nicely written and easy to follow, this look at e-learning is important to keep in mind when considering the instruction delivery. Would more collaboration, connectedness, or increased contextual applicability have increased motivation? If we were to design a new course, then we would want to consider these factors. However, as it relates to this study, no new insights related to motivation in mandatory technology training are illuminated.

Burgess, P. (1971). Reasons for adult participation in group educational activities. *Adult Education Quarterly, 22*(1), 3-29.

Summary
So, a lot of studies talk about the main reasons WHY adults go to education. This is confused for "motivation." We're not looking so much as WHY – in this study it's assumed that the training is mandatory and workplace (work-related). So, we're looking at what other, detailed factors within this motivational "domain" are at work. This study looks at why people take courses from a high-level viewpoint: Do I need to learn Spanish to go to Mexico? Do I need a new skill to succeed?

The study looked to validate some of the existing reasons people engage in training and then tried to cluster "sub reasons."

Top reasons (sub-reasons) for those who take Training to Comply with Formal Requirements

(34) .80 To comply with orders of someone with authority
(64) .78 To carry out the recommendations of some authority
(65) .71 To comply with wishes of employers
(13) .61 To comply with regulations
(37) .58 To comply with recommendations of those who have influence on my life
(53) [.42] To meet some formal requirements

Critical
The study took previous research (Houle, others) and created a survey (likert-type) to try and categorize the "Reasons for Educational Participation." The instrument collected not only likert-type answers, but allowed for participants to fill-in-the-blank (if they chose). *Factor analysis* was also performed to insure the procedures / data collected was accurate.

Relevancy (1.5)
A dated and interesting study, more related to overall reasons why adults seek training and education. Close to 40 years ago, this study attempted to cluster sub-reasons under various "declared" reasons to seek out education. Underlying

motivation factors (not just reasons), which affect mandatory, technical training are not discussed here. On the plus side, it's good to keep in mind and remind ourselves there are various reasons for lifelong learning.

Wlodkowski, R. J. (2003). Fostering motivation in professional development programs. *New Directions for Adult and Continuing Education***:** 39-47.

Sorrentino, R. M., & Higgins, T. E. (1996). *Handbook of motivation and cognition: foundations of social behavior*. New York: Guilford Press.

Simpson, T. (1997). The initial motivation of students enrolling in an adult and workplace education programme. *Asia-Pacific Journal of Teacher Education* **25**(1): 67 - 78.

Studied the factors related to those entering education as a field. The study ranked factors like spouse, employer, supervisor, clients, public, and co-workers. I was able to pull some interesting nuggets related to motivation / professional development out of this study.

Wlodkowski, R. J. (1993). *Enhancing adult motivation to learn*. San Francisco: Jossey-Bass.

Knowles, M. S. (1978). *The adult learner. A neglected species* (2nd ed.). Houston, TX: Gulf Publishing.

Kopp, T. W. (1988). Making trainees want to learn. *Training and Development Journal*: 43-47.

This article was primarily focusing on a case study, based on mall demonstrations of a product. The author likened training to demonstrating equipment to a group at a mall and applied the ARCS model to the processes (Attention, Relevance, Confidence, and Satisfaction). The article basically stated that training should emulate mall demonstrations by using engaging and empathetic presenters, positive language and demonstrating how the tool will help the observers' lives. The article claimed all these concepts should be applied to training and ideas and strategies should be obtained by looking at billboards, religious material, etc… Frankly, this article concludes that trainers can use the same tactics as a mall demonstration to "sell" training. In sum, this article really doesn't talk about effective learning / training but rather how to

“hook” people into wanting the training itself. I’d be interested in a study which discusses how to continually promote motivation throughout a training course.