

# Sleeping With Their Eyes Open: A Guide to Student Staff Training

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## ABSTRACT

Grinnell College is a small, liberal arts institution in Iowa. As part of the IT Student Staff program, the students must complete several training requirements to be hired as well as attend “training camps” prior to the start of classes in August and additional workshops that are offered throughout the year.

This doesn’t seem that challenging; however, it turned out to be a project that had several failures before it had success. We tried training “out of the box,” but no one told us where the box was located. Then came the introduction of audio-visuals and Microsoft PowerPoint; all our training went onto the computer. It was very attractive. One day, while observing a training session that one of our student supervisors was leading, I looked out at the audience, and the students looked like they were sleeping. The training was boring so how could they possibly be learning?

Confucius says, “What I hear, I forget. What I see, I remember. What I do, I understand.” The principles of active and accelerated learning follow this idea and guided the changes to the student training program. Learning needs to be creative and engaging while fitting into a tight schedule and a dynamic group of participants.

## Categories and Subject Descriptors

K.6.1 [Management of Computing and Information Systems]:  
Project and People Management – *staffing, training*

## General Terms

Management, Human Factors.

## Keywords

Learner-centered training, Student Staff, Training, Training Design

## 1. INTRODUCTION

Grinnell College is a private liberal arts college located in Iowa, with approximately 1400 students. The Information Technology

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*SIGUCCS '04*, October 10-13, 2004, Baltimore, Maryland, USA.  
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Services (ITS) department employs between 50-60 students to work in various technology positions on campus. These students are Technology User Consultants (UC). The students staff the campus Help Desk, computer labs, assist with ResNET support, staff the Technology Discovery Center, and work on special projects as needed. Leadership of this group consists of four students acting as coordinators: Administrative, Technical, Training and Help Desk. These coordinators assist in the daily operations of the student program.

There has always been a training program for new student hires and continuing education for the experienced staff. Like most colleges with student staff, we train on a broad range of topics from networking to using Microsoft Word. Each August, we host a summer “camp” where the current staff is allowed to come back to campus a few days early to participate in 2 days of training, and we offer workshops throughout the year on various topics.

Each training session has an outline, PowerPoint presentation and often documentation to go along with it. It seemed to be a very efficient process with good information and regular updates to that information.

## 2. OBSERVATIONS

There were two factors that caused examination of the training program for the students. First, experienced staff would often complain about the new students. The new staff completed a comprehensive training program, mentor program and had also passed a practical exam! Of course they were trained! The problem is that sometimes they couldn’t add a printer to a lab machine or perform another simple task that was covered during training. Second, this semester’s training classes were observed to make sure the material was being covered. During one such observation session, the students appeared like they were actually sleeping! Their eyes were open, but the blank look on their faces made them look like the local cows. Did you know that cows sleep with their eyes open? (A bit of farm trivia from Iowa) They all appeared this way at varying times, not always at once, drifting in and out of consciousness. The problem presented an opportunity for change.

## 3. LEARNER FOCUSED TRAINING

In researching methods to redesign the training program, it was apparent that if students were to benefit from the information presented, it would have to involve them as learners. So much of the time spent on preparation, handouts and design of a

presentation focuses on the instructor, when it should focus on the learner's needs.

Training enhances human performance; the learner needs to do the work to learn successfully. If the instructor is neatly packaging the material and demonstrating the skills, the work is being done for the students.

*When I hear, I forget. When I hear and see, I remember a little. When I hear, see and ask questions/discuss, I begin to understand. When I hear, see, discuss and do, I acquire knowledge and skill. When I teach, I master.* [1]

In common delivery methods, the following approximate retention rates are observed [1]:

Lecture	5%
Reading	10%
Audio/Visual	20%
Demonstrations	30%
Discussion	50%
Practice	75%
Teaching	90%

For example, if a lecture was combined with Audio/Visual, in other words, a PowerPoint presentation, a retention rate of approximately 25% would be observed.

### 3.1 Other Factors to Consider

There are other factors to consider in designing any type of presentation. First, audience attention decreases with each minute unless they are kept engaged. Every eight minutes, adults internalize what they have learned, unless they have been sleeping. Lecturing is for auditory learners and not all adults learn best in this fashion. It is important to design training and presentations to fit all types of learners.

### 3.2 Positive Learning Environment

People learn best in a positive physical, emotional and social environment; one that is both relaxed and stimulating. The learners need to feel safe, both physically and emotionally, so that they feel comfortable sharing thoughts and communicating during the session.

### 3.3 Total Learner Environment

It is important that learners be involved in the process. They need to be responsible for their own learning and to participate. They will not participate if they are not engaged in the session. Designing sessions that are activity-based rather than materials based will help create this environment.

### 3.4 Collaboration

Effective learning is a social behavior. Traditional learning emphasizes competition between learners and is isolated. In a collaborative environment, learners are working together and actively engaging each other in the process.

## 3.5 Variety

Training designs must appeal to all learning styles. Not everyone is an auditory learner for whom lecturing is an effective style. By using a variety of methods and incorporating all of the senses, learners stay engaged and focused on the subject.

## 3.6 Contextual Learning

Facts and figures are difficult to present to learners because people learn best in context. Methods including immersion, feedback, reflection and re-immersion are much more successful because they are context-based. If the instructor can take the "facts and figures" and incorporate them into the learning experience, students will be able to learn the subject more successfully.

## 4. CREATIVITY

Creativity is important in the quest for a good training program design. It is important to find resources for awakening the creative side. Everyone has creativity; some have just chosen to ignore those things which are non-traditional or out of their "comfort zone." Creativity fosters engagement. For example, consider two speakers, both discussing the effects of the latest network virus. One is dressed "normally"; the other is dressed in a containment suit. Which one will be more engaging to the audience?

Creative thinking can be learned with practice. Many resources are available to ignite creativity within a person. There are seminars, books and tapes that will assist with awakening that creative side. However, there is also a lot of "fluff" so exercise a healthy skepticism when evaluating resources. Stay open-minded, but recognize what is junk and what is not.

## 5. ACTIVE LEARNING: THE SAVI APPROACH

Conventional training keeps learners inactive for long periods of time, so learning slows down. Sleep learning doesn't work. In the 1970s it was popular to try to learn languages by listening to tapes while one slept. Did anyone successfully learn to speak other languages while sleeping?

Activity based learning improves mental processing and keeps the learners awake. There are four main types of learners [2]:

Somatic—kinesthetic, learns by doing, tactile learners

Auditory—learns best by talking and hearing

Visual—learns best by pictures, observing, notes

Intellectual—learns best by problem solving, reflecting

All four types of learners need to be considered when designing a program and optimal learning will occur. A student may be an auditory learner, but by designing activities with somatic learners in mind, he is stimulated in another way. By incorporating activities benefiting all learners (SAVI), training involves the whole mind/body.

### 5.1 Somatic

There are several ways that training could be designed to include somatic learners. This involves the hands-on, physical, moving

nature of activities. For example, people could be used as props. When describing a network, use people as the components, strung together with network cable. A board game can be created to collect all of the components to build a network, rather than discussing the components. Teams could build a model of a process, create simulations or take field trips. All of these examples would represent somatic learning.

## 5.2 Auditory

In the course design, look for ways to discuss what has been taught, to engage the auditory learning process. Students can read aloud. They can read aloud dramatically, which would be more engaging than just reading normally. Students can discuss, talk aloud while problem solving and tell others what they have learned. Storytelling is a great resource for the auditory learner. Instructors can give examples by storytelling. More creatively, create a rap or rhyme about a topic. There are many ideas to engage the auditory learning process.

## 5.3 Visual

Visual learning takes place when there are maps, diagrams, pictures and objects. The instructor should use real-world examples and dramatic body language. Not only will the material be visual, but the entire presentation can be visual. Field observations are also a good technique. The students can be sent out to observe a process, a group of people or anything else related to the subject in order to stimulate the visual learners.

## 5.4 Intellectual

Intellectual learning is how humans integrate experience, thinking and learning into their life. If an exercise doesn't sufficiently challenge this side of learning, activities may appear to be childish or foolish. To engage the intellectual, try problem solving, analyzing experiences, strategic planning, creative thinking and formulating questions.

# 6. PHASES OF LEARNING

Following the Accelerated Learning model, there are four phases of learning: preparation, presentation, practice and performance. Each of these phases should be present to create an engaging learning experience for the student.

## 6.1 Preparation Phase

The preparation phase does not have anything to do with how well the instructor knows the subject. It is the preparation of the learner to be open to the ideas and concepts that will be a part of the training. This is the time to remove learning barriers. For example, some people associate learning with boredom because of past experiences. Instructors will sometimes cause the barriers. For example, one might state, "We've got a lot of material to cover and not much time...this is very complex." The instructor has to be careful not to create barriers and to remove existing ones.

This is the time that the interest of the learner should be aroused. There should be positive feelings about the subject with clear, meaningful goals. Students need to know how this subject will benefit them. People learn best when they know why they are

learning and appreciate the benefits that will be gained from the new knowledge.

Physical environment is also important. Typical classrooms are military-like in design. The physical learning environment should be positive, stimulating, comfortable, functional and interesting if the student is going to be stimulated to learn.

It is important to create a learning community from the beginning. Get the students out of the isolation of traditional learning and into a creative community. Collaboration, team-building and physical seating arrangements in a group setting will all help create an atmosphere of community.

Learning is not a spectator sport. The learners have to be involved and willing to learn for it to be successful. They have to be prepared to learn so that they are curious and interested in the subject for them to be open to the presentation of the content.

## 6.2 Presentation Phase

This is the first impression that the learner has of the subject. It is their initial contact with the material. Traditional training puts the most emphasis on the instructor's presentation rather than on the learner's involvement with the subject. Learning comes from involvement with the subject, not just from seeing a PowerPoint presentation about it. Presentations should initiate the learning process, not be the focus of it.

The instructor's presentation should create interest and raise curiosity. Instead of simply creating slides to accompany a lecture, use toys, puppets, mock-ups, and craft materials to assist with learning. Tell stories, create digital stories, wear costumes, use learners as props to illustrate the subject.

The learner's presentation is discovery. Create team activities, drawings, scavenger hunts, models, use investigative reporting techniques, field trips, problem solving and collaborative discussions to facilitate the discovery of the subject. Instead of teaching customer service, take a field trip. Have students observe customer service and report back to the group. The more the emphasis is placed on the learner in the presentation, the more engaged learners will be with the subject in order to practice their knowledge.

## 6.3 Practice Phase

Practice is the most important phase of learning where up to 70% of learning will take place. When learning occurs, there is a chemical/electrical alteration within the brain—something new is created. In this phase, the learners will need to practice the knowledge they have acquired and be able to articulate concepts and ideas about the subject.

In the training design, use methods like collaborative role playing, idea sharing, group researching, and working with partners to articulate what has been learned. This is a good time to have a board game to play or problem solving exercises. In training students for IT, use hands-on problem solving, such as creating a "booby trapped" lab for students to work directly on computer problems. Once students have practiced the subject effectively, they will be able to perform.

## 6.4 Performance Phase

The value of learning is measured by the way the learning is applied to the job or "real life" and the follow-through. The goal

of any training program is to make sure the participants know the material and can apply it successfully.

There are many enemies of this phase, for example, no immediate need to apply the knowledge or skill, no support system for reinforcing learning, no rewards or consequences for applying the new skill and even lack of time. These things all contribute to the failure of training/learning. It is not effective for people to be sent for training who don't apply what they have learned for months. It is important for the training design to include what the learners will do at the session to ensure mastery of the subject and also what learners will do after the session to support performance.

During the session, techniques such as dress rehearsals, evaluations, and planning on the job application of the new skills can be used to facilitate performance of the skill. After the session, reinforcement techniques, assurance of organizational support and evaluating performance can all be used to ensure performance of the subject. For example, the instructor can provide follow-up with the students on the topic or planned goals. Staff can be observed to see if they are performing the new skills. Only 5% of learning sticks without reinforcement, so it is important to assess the performance of the skills or knowledge.

## 7. AWAKENING THE LEARNERS

There are many things to consider when designing an active learning experience for a training session. At Grinnell College, considering the four types of learning styles and the phases of learning, new training sessions were designed that kept the students awake and engaged for the session.

One of the subjects that used to be presented with PowerPoint slides and another student lecturing about routers, switches, and network settings has been transformed into an interesting and engaging training session.

The *Warriors of the Net* MPEG [3] is shown to the students giving a simplified view of how the internet works. The group is

divided into teams who play a board game called "Build the Network" and race to acquire the proper pieces of the college network, while viruses and security holes can cause delays in their progress. After the game has ended, a group discussion of the important points that sometimes includes passing out the network component cards and having the students arrange themselves into a human network concludes the session. The students are also required during another training, "Booby Trap lab," to successfully connect a Windows and Mac system to the network, installing all required components. When the students leave the session, they have a strong idea of how the network works and often can be heard explaining it to a fellow student when there is trouble connecting.

This past year's training sessions that were active learning experiences went extremely well and no one went to sleep watching PowerPoint slides change. The students were engaged and there was a better retention of the subject than with our traditional training model. The plan is to incorporate this design into some of our other training and combine subjects to reduce the number of sessions required. It is so much more gratifying to see the students learning with their eyes open.

## 8. REFERENCES

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