

BUILDING A SUSTAINABLE ERGONOMICS PROGRAM

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ABSTRACT. A common term used by employees to describe the latest program implemented in companies is "Flavor of the Month." This term is used to describe how fast some programs come and go and if you wait long enough management changes or priorities change and then the employees won't have to do whatever it is anymore. It is difficult for employees, given this problem, to truly commit to changing, for instance, their behaviors because they know what is required today, will be gone tomorrow. The same goes for middle management that, most of the time, is left with implementing a program. Building sustainable processes/programs is, therefore, difficult. There are some things that can be done, however, to help ensure an ergonomics program doesn't melt and go away, like last month's flavor. This paper will explore the ideas we have tried and which ones have worked and which failed miserably. For instance, one of the worst things a company can do with ergonomics is to unwisely throw money at the problem. In numerous cases we have seen a company decide to do ergonomics and put a large sum of money towards the effort. However, when the injuries don't instantly disappear, or in some cases (due to increased awareness) more injuries are reported, the company pulls the funding back. This, in fact, has the opposite of the desired effect and both the employees and management become soured.

1. HISTORY AND INTRODUCTION

The human factors program has been active at the Idaho National Engineering and Environmental Laboratory (INEEL) for almost 20 years. Most of the activities performed, however, were for outside organizations such as the Nuclear Regulatory Commission and pertained to control console design at nuclear power stations. As a part of this program, some physical ergonomics studies were performed. However, an organized effort to perform ergonomic assessments of workplaces was not begun until 1990 and 1991. During those years the print shops, carpenter shops, hot cells, machine shops, warehouse, cafeterias, bus repair facilities, respirator repair and cleaning shop, waste handling facilities, and the laundry were surveyed and recommendations were made for improvements (Ostrom, Gilbert, and Wilhelmsen, 1991). It was a limited effort, however, and after this baseline survey the ergonomics program again returned to more of a hit and miss operation. One of the stumbling blocks was the medical staff's lack of acceptance of cumulative trauma disorders (CTDs) as a real occupational issue. Medical tended to believe that CTDs were not due to workplace and task design issues. Most of the injuries, according to medical, were due to the individual's physical makeup or from outside activities. However, individuals including the authors, Henry Romero and Eloise Hayes (ergonomists at the INEEL for a period of time), and some of the industrial hygienists kept pounding on medical to accept the fact that CTDs can be caused by occupational conditions.

In 1994 the atmosphere at the INEEL began to change. Medical relented somewhat, an ergonomics committee was established, and a large effort to conduct office ergonomic assessments at one of the specific site locations began. In all, approximately 800 office ergonomic assessments were performed. This effort aided by putting in the foundation for a "real ergonomics program."

Funding for the efforts in ergonomics was always an issue. Medical, Environmental, Safety, and Health (ES&H), as well as just upper management were all approached to see if a fund of money could be set aside for ergonomics. In general, funding from these organizations never materialized, except for a short period of time when medical allocated funds. The funding mostly came from middle managers that were concerned for their employees. Also, funding came through the Department of Energy's Voluntary Protection Program (DOE-VPP) being established at the INEEL. More will be presented on the VPP later in this article. The difficulty with funding was one of the reasons the ergonomics program developed the way it did. At this point, there is enough history discussed to begin to discuss how the sustainable ergonomics program began to take shape at the INEEL.

2. MAKING PROGRESS

Throughout industry in the United States employers frequently change the thrust of the company. One week it might be production, then quality, then ethics, and then safety. Employees commonly call these changing goals the “Flavor of the Month.” Because management puts together a campaign that includes, usually, T-shirts, buttons, posters, memos, training, and presentations on the current topic and when the campaign is through, so is the goal for increased whatever, and in its place is the new flavor. The INEEL was no different. Employees got so tired of this that anything new that came along was automatically dismissed just another “Flavor of the Month.” In actuality, the managers began saying to employees when a new program began “This is not just another Flavor of the Month.” The employees knew different. Therefore, when we began to offer and conduct ergonomics training the employees would say “How long is this going to last?” “Just let us sign the training roster so we can be done with ergonomics and can go on to something new.” This attitude was very disheartening for those of us trying to make a difference. Ergonomic awareness training was being offered on a regular basis and it was conducted so that not only the facts were presented, but also personal experience with CTDs was presented. Cheryl Wilhelmsen was experiencing the effects of a CTD and her story added credence to the need to make changes in both work habits, as well as workplace layout. The term she liked to use was “Listen to Your Body. It will tell when it is time to take a micro-break.” Employees after the training would come up to her and ask what she had experienced and what she did to make changes. They would also tell her the problems they were having. Having a person who had experienced a CTD do the training provided the employees with a sense that they could trust this person. She knew their pain, so to speak.

Several important steps were taken in 1994 and 1995 to help implement the ergonomics program. First, the contractor at the INEEL changed to one that was more receptive to the idea of an ergonomics program. With this change in contractors new managers were brought in. Derek Moore was one of them. He became a champion of the ergonomics process. One reason was he was experiencing the results of exposure to improper work environments and knew that changes needed to be made to workstations with problems so others could avoid the problems he had. He provided some seed funding to be used to develop an ergonomics demo-office and perform awareness training on a widespread basis. In addition, there was some talk of an OSHA and DOE ergonomics standards and this pushed medical even more towards doing something, rather than just ignoring the problem.

Also, in 1995 the INEEL began to implement the DOE’s version of the VPP. The DOE-VPP promotes safety and health excellence through cooperative efforts among labor, management, and government at DOE contractor sites. DOE initiated its VPP in January 1994 to promote improved safety and health performance through public recognition of outstanding programs. DOE-VPP also includes coverage of radiation protection/nuclear safety and emergency management because of the type and complexity of DOE facilities. Similar to OSHA’s program, DOE-VPP provides several proven benefits to participating sites, including improved labor/management relations, reduced workplace injuries and illnesses, increased employee involvement, improved morale, reduced absenteeism, and public recognition.

The VPP was an excellent vehicle for helping to promote ergonomics because of its emphasis on management and employee cooperation for solving workplace issues. At about this time very mouse intensive software packages began to be used at the INEEL and the numbers of wrist and elbow problems escalated to record numbers. In response, managers began to ask for ergonomic assessments at corresponding levels. Not all the managers had funding set aside for these types of activities and they began to ask the next higher level managers for support. In mid-1996 funding was provided through the VPP program at the department level to perform ergonomic training and worksite assessments. Derek Moore also became one of the VPP champions and he always pushed ergonomics. During 1997 the number of ergonomic assessments that needed to be performed was great. Theresa Lango was brought in to help perform these assessments. At this time, there was approximately 500 assessments needing to be performed. This was quite an accomplishment, given just a couple years before it was thought to be just a “Flavor of the Month,” or a problem that really didn’t exist.

A major accomplishment occurred in 1998 when medical set aside some funding explicitly for ergonomics. Basically, the barrier with medical had been torn down and they acknowledged that CTDs could be of occupational origin. We celebrated. An ergonomics demo-trailer was purchased for use to demonstrate ergonomic equipment at remote sites on the INEEL with this funding. Also, Buddy Ergonomic Software was purchased. This software provided a reminder to employees when they spent too much time at the keyboard and also showed them how to properly set up the workstation¹. Along with the Buddy Software, the ergonomic “Buddy-System” also helped ensure that ergonomics was brought to the employees (Karwowski, 2000). This system involves training fellow employees to help perform ergonomic assessments and provide recommendations. Though the system was never fully

¹ Buddy Ergonomic Software is available through Mountain Bluebird Products, (208) 522-0935.

implemented, numerous employees were trained to perform assessments and did help eliminate the backlog of assessments that needed to be performed.

By 1999 over 2500 office ergonomic assessments had been performed, along with an equal number of self-assessments. When we first began conducting the office ergonomic assessments we saw a marked increase in the number CTDs. This was due to the increased level of awareness, but since we had also seen a dramatic decrease in CTD cases. Tables 1, 2, and 3 show the numbers of OSHA recordable injuries, first aid cases, and the associated cost for fiscal years 1998 and 1999 for one major branch. These tables show the drastic decrease in recordable injuries, an increase in first aid cases, and a decrease in cost. What that says is that employees were reporting injuries sooner before they become as serious.

Table 1 – OSHA Recordable Injuries

Fiscal Year	Number
1998	27
1999	13

Table 2 - First Aids

Fiscal Year	Number
1998	11
1999	17

Table 3 - Cost

Fiscal Year	Cost
1998	\$274,000
1999	\$44,000

On the industrial ergonomic side of the ergonomics effort since the initial baseline survey additional and follow-up assessments have been performed of the cafeterias, big shop, warehouse, SMC, hot cells, mail rooms, waste handling facilities, laboratories, and, most recently, the bus painting operation. These assessments have been documented in various places. However, there has not been a systematic assessment of the industrial jobs on the site and the leading cause of injury amongst site workers are back injuries, sprains, strains, and CTDs. These all can be traced back to work place design or work behaviors. A more, well-organized industrial ergonomics program was still needed at the time this article was written.

It is important to note that even a well organized program begins to fall apart rapidly when there aren't true champions and ergonomic professionals in place. Funding disappears and trust in the performers quickly evaporates. However, if the ergonomic training of the employees and tools like Buddy Ergonomic Software help ensures that even if the program loses support significant gains are still made.

3. ELEMENTS OF A SUSTAINABLE ERGONOMICS PROGRAM

The following outlines the items we feel need to be incorporated into a sustainable ergonomics program:

1. Finding a true management champion(s) who will seek further management support and funding for the ergonomic process.
2. Being professionally dedicated to the task of implementing an ergonomics program for the benefit of the employees is a must. One, sometimes, has to grow very thick skin to be able to tolerate some of the pressures and it takes dedication to persevere.
3. Not throwing tons of money at the problem, until a good process is in place. There has been many "Flavor of the Month" programs at the INEEL where money was wasted and not used on the appropriate issues. Developing a usable process ensures the money will be used in the most effective way possible.

4. Ensuring the employees have truly bought into the process. Having the VPP and ergonomics be somewhat integrated helped tremendously ensure the employees didn't feel it was not just a passing fad. Also, ensuring problems were handled quickly aided in gaining that employee acceptance.
5. Using a "Buddy-System" to help spread information about ergonomics helped foster trust amongst the employees. The Ergonomic Buddy-System is explained in-depth in the International Encyclopedia of Ergonomics and Human Factors (Karwowski, 2000).

In the short amount of space available in this article we have tried to show our path to creating a sustainable ergonomic program. We don't want to devalue in any way the importance of trust on the part of the employees, and for that matter, management in the ergonomic process. That is what keeps the program going. If employees feel they cannot trust the performers to do the best for them, then they will not seek help. If management begins to feel that the ergonomic performers and or the champion are not being totally forthcoming in providing an honest assessment of the program needs, then the program will fall apart because it is felt to be wasteful.

The path to a sustainable ergonomics program is long and winding and needs

4. REFERENCES

Ostrom, L.T., Gilbert, B.G., and Wilhelmsen, C.A., *Summary of the Ergonomic Assessments of Selected EG&G Idaho Work Places*. EG&G Idaho Formal Report, EGG-2652, July, 1991.

Karwowski, V, Editor, *International Encyclopedia of Ergonomics and Human Factors*, Taylor and Francis, 2000.