



EPG NEWS

Educators' Professional Group Newsletter Human Factors and Ergonomics Society

<http://www.indiana.edu/~iuepsyc/HFES/EPG.html>
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Message from the Chair

I hope you have all been a bit more successful than I have in getting the new semester started. It may have been having the annual meeting in August or it could also have been thinking about what the weather in San Diego will be in January compared to Oswego, but I wasn't quite as prepared as I usually am in September.

Those of you who made it to the annual meeting were treated to a series of excellent papers, posters and demonstrations. Having the IEA delegates provided an international perspective that added to the normal enthusiasm and motivation we find at the annual meeting. There were also a number of activities coming out of the Council of Technical Groups (COTG) as well as our own Educators' Technical Group that are very exciting.

The most significant change is one that we have been discussing for the past three annual meetings. In Chicago, in 1998 Tom Smith organized a working meeting to discuss the ergonomic and human factors issues related to education,

particularly the use of technology in education. At that time Tom made a request to the TG to explore expanding the scope of the TG to include what was termed educational ergonomics. I think we all have experienced the increased use of technology in our classrooms and your children likely have had similar experiences in their k-12 classes. Personally, my daughter's high school began a pilot laptop program this year in which student computers are integrated into the curriculum. It became clear from the working meeting in Chicago that there has been little research in support of the use of technology and particularly computer technology in the classroom. By expanding our charter to include the human factors and ergonomic issues related to the use of technology in the classroom, we would increase the attention on those issues and provide a focal point for their discussion.

In Houston, last year, a committee comprising Barrett Caldwell, Joe Goldberg, Tom Smith and me was formed to make a recommendation to the TG whether we should pursue that expansion of our scope and change our charter. At the annual business meeting in San Diego, the committee recommended that the scope be expanded and those attending the meeting overwhelmingly supported the change. Implementing this change requires support from all of the members of the TG. In this issue of the newsletter is a draft of the proposed mission statement and a ballot. You can mail the ballot back to me (my address is on the ballot) or email your vote to klatsky@oswego.edu. Given the importance of the proposed change, I strongly urge you to vote.

I also want to encourage you to think about how we can showcase this change at the 2001 annual meeting. Is there research you can present or case studies? Panel sessions or colloquium addressing the issues related to educational ergonomics would attract considerable attention. Think about what you can submit. The call for papers is just around the corner.

During the 1999 business meeting we also voted to have a trial elimination of our dues to attract additional members. As a result of the delayed TG elections last year, that change was not implemented. I have informed the central office that there will not be any dues for 2001. As of 6/30/00 we had



approximately \$3,700 in the Educators' TG account which should cover all of our expenses for the next two years. At the 2001 annual meeting we will assess the impact of the dues elimination and determine whether to continue the trial for another year.

In the past each TG has been responsible for their own websites including hosting the site. Suzi Shapiro has done a great job for us creating and maintaining the Educators' website at the University of Indiana East. Last year the COTG took on the responsibility of providing the resources for each TG website. They will provide the hardware for the website and will email addresses for all TG members and listserv support. Given the availability of this centralized resource, I am looking for a volunteer who would like to work on our new EP site. This sounds like a great project for a graduate student. If you are interested or know someone who would be interested please let me know. Again, email me at klatsky@oswego.edu or you can phone me at (315) 312-3474.

The COTG also will be publishing a list of top HF&E references. It is hard to define what are the most important references in teaching human factors. I would like to present a list of suggested references in the next newsletter for you to vote on. If there are any textbooks you think are important or any books or papers you routinely rely on when you teach please let me know what they are and I will add them to the list.

Elections will be coming up next year. These changes will require active involvement so please volunteer to run for one of the positions.

And finally I want to thank Tracey Bernard who volunteered to take over as newsletter editor. Most of you know that newsletter editor is probably the most difficult position in any TG. On behalf of the entire Educators' TG, we are very grateful.

I'm looking forward to hearing from you.

Gary Klatsky

Program Chair: First Announcement & Call for Papers

The HFES 45th Annual Meeting will be held in Minneapolis, Minnesota, October 8-12, 2001. The EPG had 3 research sessions and 1 poster session in 2000. Program Chair, Deivy Deivanayagam, stated that the number of sessions HFES assigns to each Technical Group is based on the number of proposals submitted. If we are to have more sessions that are of interest to members of EPG, we need your help! We need you to submit ideas and proposals for lectures, panel discussions, symposia, posters, etc. Be thinking ahead - HFES will be putting out the call for papers soon!

EPG Business Meeting Minutes

August 1, 2000
San Diego, California

Introductions

The breakfast meeting was called to order and the officers were introduced by Gary Klatsky, Chair. Attendees of the 2000 meeting who were asked to introduce themselves were:

Keith Adams	Iowa State Univ.
Tracey Bernard	Murray State Univ.
Jim Bliss	Univ. of Alabama, Huntsville
Rebecca Boren	Arizona State Univ.
Jan Berkhout	Univ. of South Dakota
Barrett Caldwell	Univ. of Wisconsin
Don Chaffin	Univ. of Michigan
Jerome Congleton	Texas A & M Univ.
S. Deivanayagam	Tennessee Tech Univ.
Owen Evans	La Trobe Univ., Australia
Andy Freivalds	Penn State Univ.
Joe Goldberg	Penn State Univ.
Steve Johnson	Univ. of Arkansas
Nathan Jones	Embry-Riddle Aero. Univ.
Gary Klatsky	St. Univ. of NY Oswego
Steve Konz	Kansas State Univ. (retired)
Don Lassiter	Methodist College
Bill Moroney	Univ. of Dayton
Ron Mourant	Northeastern Univ.
Doug Peterson	Univ. of South Dakota
David Rempel	Univ. of California
Marc Resnick	Florida International Univ.
Mike Riley	Univ. of Nebraska
Frank Schieber	Univ. of South Dakota
Jim Smith	Texas Tech Univ.
Tom Smith	Univ. of Minnesota
Carolyn Sommerich	NC State Univ.
Nancy Stone	Creighton Univ.

Financial Report

Opening balance, 1/1/00	4527.60
Income:	
Dues	353.00
Expenses:	
Newsletter	102.38
Sponsor International Delegate	1000.00
Total Expenses	1102.38
Current Budget	3778.22

Council of Technical Groups (COTG) News

- a. Publications Chair, Doug Antonelli, requests input on the *COTG Digest*. The *Digest* publishes the best of the



various TG newsletter articles. He is soliciting input and commentary on the usefulness of the *Digest*.

- b. The COTG seeks input in its plan to offer \$5000 in student scholarship(s) to fund M.S. or Ph.D. research for 1-2 students.
- c. The External Relations Subcouncil plans to establish a taxonomy of human factors and ergonomics specialty areas, with a list of domain experts for each. HFES periodically gets requests for contacts with individuals who are specialists in a particular area. The Subcouncil requests that each TG contribute. Please email your EPG suggestions to Gary Klatsky (klatsky@oswego.edu).
- d. The membership committee is seeking to promote memberships in the TGs and is considering sponsoring new members for their first year in a TG.
- e. The Internal Relations Subcouncil announced handbooks for TG chairs and program chairs.
- f. Newsletter editors are required to publish a minimum of 2 newsletters per year. These can also be published electronically (e-mail) or on the Web.
- g. The COTG has established a subcommittee, headed by J. Kelley, which is responsible for establishing a place for TGs to post their websites. A site has been purchased and the TGs will be moving their websites to this site in the next year. Guidelines set for the individual TG websites include: (i) the TG site must have the HFES logo; (ii) the TG site must be identified as an HFES site; and (iii) the TG site must link to the HFES website.

EPG Webmaster

Suzi Shapiro has been serving as the unofficial webmaster of the EPG site <http://www.indiana.edu/~iuepsyc/HFES/EPG.html>. Joe Goldberg formed a motion, seconded by Andy Freivalds, to establish an office and elect an EPG Webmaster. The motion was amended to identify that this office will be an appointed position. There was some discussion as to whether the newsletter and webmaster should be the same position, but considering the initial workload to establish the site, it was recommended that the positions be two separate offices. After discussion, the vote was unanimous to establish a new EPG office and appoint a Webmaster.

It was suggested that the Webmaster position would be a good opportunity for a graduate student to become more involved with HFES. If you (or one of your grad students) is interested in being the EPG Webmaster, contact Gary Klatsky (klatsky@oswego.edu).

Best References

The COTG has put out a request for each TG to identify the top 10 publications that are influential in its area. There was some discussion on whether the EPG should identify textbooks, teaching references, or human factors references with the recommendation that teaching references were acceptable if

they substantially affected your teaching style. It was also noted that Joe Goldberg and Andy Freivalds have recently published a paper in which they surveyed 30 Industrial Engineering departments and identified the top textbooks that were used. Gary Klatsky requested that you send him your top 3 recommendations (klatsky@oswego.edu).

Sponsored Delegate

EPG volunteered to donate \$1000 to sponsor an international delegate to the conference. Akivi Asherov from the Ukraine was selected. Akivi submitted the paper "Standardization of requirements to the knowledge and skills of ergonomic bachelor in professional pedagogics," which was presented in Friday's Standards session.

Program Chair

Program Chair Deivy Deivanayagam reported that 19 proposals were received for the IEA 2000 congress. Deivy expressed thanks to reviewers Joe Goldberg, Susan Hallbeck, Chuck Halcomb, Susan Shapiro, and Nancy Stone for their excellent work. Three research sessions and a poster session were allotted for EPG. Deivy would also like to thank his graduate student, Mr. Srinivas Loke, for his hard work in coordinating the proposal submissions and reviews.

Next year, for the Minneapolis 2001 Program, Deivy would like to encourage the submission of more proposals to ensure that EPG will continue to be allotted at least three sessions. Joe Goldberg proposed a panel discussion about websites, web courses, web tools, etc. Deivy has requested further input/ideas for additional sessions/panels for next year. If you would like to serve on the panel or if you have any other ideas for next year's program please contact deivy@ntech.edu.

Expanding the Scope of EPG

Tom Smith proposed that the EPG consider expanding its scope to include the ergonomics of education. This topic is not currently addressed by any other TG. For example, he suggested that the EPG should address the topic of standards/best practices for developing a web-based course. In discussion, concerns arose that the web is bringing a new wave in education, and that we're falling behind. There is also concern that K-12 is almost entirely ignorant of the field of human factors. A committee consisting of Barrett Caldwell, Joe Goldberg, Gary Klatsky, and Tom Smith are proposing a revision to the EPG's mission statement. Jim Smith moved that the matter of expanding the focus of the EPG be voted on by the EPG constituents. The vote was approved (23), with 1 abstention. Gary will supply the revised mission statement and request a formal vote in the next newsletter. **Don't forget to VOTE!**

EPG Membership

As of June 12, 2000, there were 179 members. COTG has voted to lower the limit to 150 members, thus the EPG is in good standing. However, several times throughout the meeting,



membership concerns arose. Expanding the scope of EPG was recommended to increase membership. Another recommended method was to solicit graduate students by sending letters to the student chapters inviting them to join the EPG. Eliminating dues for a couple of years was also proposed to attract members. Dues are currently \$4 per year. There was discussion suggesting that the EPG could afford to eliminate dues, but concern that, although this may increase the EPG rolls as people willy-nilly sign up for free memberships, dues elimination probably would not affect active and sustained membership.

Articles Related to Education

A motion was unanimously (20) approved to request an interest-free loan from HFES to perform a needs assessment for developing a handbook for teachers. It was recommended that a graduate student from Penn State begin the impact study by pulling the educators' papers from the proceedings of the HFES annual meetings.

EPG Sessions 2000 Annual Meeting

Abstracts from the 2000 Annual EPG lecture and poster sessions are provided below since they were not published prior to the meeting.

Human Factors and Safety Education Lecture Session EP1 (Monday 2:45-4:00 PM) Chair: Nancy Stone, Creighton Univ. Cochair: Barrett Caldwell, Univ. of Wisconsin

1. Incorporating Service Learning in an Introductory Human Factors Course

Gary J. Klatsky, Oswego State Univ.

The integration of service learning opportunities within an academic experience has enhanced the academic performance of the students and provided them with a sense of community and social involvement. The use of service learning was expanded by incorporating into a human factors course. Students evaluated the ergonomic design of elder care facilities in Oswego, NY. Through a literature review, interviews with residents and staff and their own evaluations, students assessed the ergonomics of two elder care facilities and presented their assessments to the facilities' administrators. All of the goals of the service learning component were met. Students were given a "real world" human factors problem to address, they provided information to the elder care facilities that will improve the

quality of care provided to the residents, and the students developed a greater awareness of the needs of the elderly population.

2. Teaching Applied Experimental Psychology Using a Living Laboratory

Marcie R. Benne and Arthur D. Fisk, Georgia Institute of Technology

Five principles of high-performance skill training were integrated into our undergraduate engineering psychology /human factors laboratory. This was accomplished by applying what we refer to as a living laboratory concept. The living laboratory is a focused field experience that practices the skills of a human factors professional. The skills exercised by this living laboratory included information gathering, analyzing practical problems, generating solutions and communicating with clients. The students learned to utilize tools such as task analyses, function analyses, function allocations, traffic flow analyses, and questionnaires. Their project was to design an educational and user-friendly instructional system for a popular exhibit at a local zoo. The zoo's education staff played the role of the "client" for the students and required the students to report on their solutions in relation to the zoo's goals and the same general skills can transfer to other living laboratories. The advantages of the living laboratory model include the exercise of high performance skills along five criteria as suggested by training research.

3. Research Experience for Undergraduates - Motivating and Retaining Bright Engineering Students

Marc L. Resnick, Martha A. Centeno, and Ronald Giachetti, Florida International Univ.

From 1997-2000, the National Science Foundation has funded a research program at Florida International University with the purpose of encouraging bright engineering undergraduates to pursue graduate degrees and careers in engineering. The program was initiated because of a realization that the first two years of the undergraduate curriculum is full of math-intensive courses that undergraduates find to be very difficult and often perceive them as irrelevant. As a result, many good students get disillusioned with engineering and transfer to other majors. Our hypothesis is that if they get involved in applied projects early in their academic programs and have a chance to participate in real engineering design, they will be motivated to complete their engineering degrees. The long term success of the REU program cannot be measured until the careers of these students are established. However, immediate results can be seen both quantitatively and anecdotally. At the completion of each



academic year and summer session, participating students fill out questionnaires about their experience in the program and their plans for the future. Their responses indicate a strong likelihood for retention in engineering. The students' actions also indicate success. Several of the students have pursued internships and other extra curricular activities in the subject areas of their projects, suggesting that they plan to pursue these areas further. Early participation in research projects clearly provides motivation for students.

4. Improving Risk and Safety Education in Estonia

Virve Siirak and Ulo Kristjuhan, Tallinn Technical Univ., Estonia

<Abstract unavailable in the CD-ROM Congress Proceedings>

5. Occupational Ergonomics Case Studies to Enhance Safety and Health Education

Tracey M. Bernard, Murray State University

This paper reviews the use of occupational case study projects to give graduate students in an Ergonomics and Biomechanics course hands-on practice in relevant skills translatable to their future profession. For the case study, student teams assess work (a job) to recommend control strategies through use of evaluation techniques such as: checklists, surveys, questionnaires, and anthropometric, biomechanical and psychophysical methods. Over forty studies have been performed by student teams over nine semesters. These have included evaluations of office ergonomics, hand-intensive assembly processes, grocery/department store cashiers, manual handling of drums, transfer of hospital patients, and maintenance/waste disposal crews. When presenting their work, students have stated they feel a sense of accomplishment at having completed a real-world, relevant, ergonomics project.

Ergonomics Education

Lecture Session EP2 (Tuesday 1:00-2:15 PM)

1. Teaching Ergonomics Using a Systemic and Systematic Approach in an Interdisciplinary Design Environment

Anamaria de Moraes, Pontifical Catholic Univ., Brazil

The aim of this paper is to present how to teach an "ergonomizing" action based on a systemic and systematic

approach. The following program has been used, since 1981, in ergonomics courses for industrial designers, safety engineers, work medicine, work nursing. All students have to choose an industry or part of a manufacturing plant, an office or human-task-system involving clerical work, a computerized information system, or a traditional information system to implement an "ergonomizing" action.

2. Computer Ergonomics for Teachers and Students

Inger M. Williams, Univ. of Rochester, Tom Cook and Tami Zigler, Oregon Public Education Network

To define the need for computer ergonomics among elementary public schools (Kindergarten –6th grade) a survey was conducted in 228 schools in Oregon, USA. Two hundred eighteen teachers, 32%, responded. The survey addressed issues related to: students' computer workstation set up and work habits; teachers' perception of students postural and visual comfort level during computer use in school; teacher education in ergonomics and computer skills; teachers' views on a computer ergonomics education program and ways to introduce it into school activities. A pilot program presented as a free ergonomic resource web site was developed based on the survey results.

3. The Effectiveness of Human Anatomy Instruction as a Function of Media Style

Sonali K. Pathak and James P. Bliss, Univ. of Alabama, Huntsville

Computer software and the Internet provide multimedia interactive learning environments. Because of the potential to use multimedia tools to enhance educational environments, it is important to determine which modalities enhance retention most. Differences between pre and post-tests were compared for groups receiving lecture (LEC), lecture combined with an educational CD-ROM (CD-ROM), or lecture with World Wide Web access (WWW). The CD-ROM group was expected to perform best because of dynamic illustrations and audio sound narration, supporting dual modalities for working memory coding. The WWW group scores on a post-test were expected to learn better than the LEC group, but not as well as the CD-ROM group. As predicted the CD-ROM group had the most improvement from pre to post-test, followed by the LEC and the WWW groups. This suggests that using animated graphics with audio narration benefits learning. Our findings also suggest that Web sites can benefit from the inclusion of interactive media.



4. Biomechanics Web Course: An Exploratory Study

**Yuen-Keen Cheong, Univ. of Oklahoma, and
Craig M. Harvey, Wright State Univ.**

From ordering books to searching for cheap airline tickets, the Internet is infiltrating our daily lives. One place where its use is definitely exploding is in the classroom. The Internet affords the instructor the opportunity to provide interactive learning situations in place of more traditional passive methods. This paper discusses the development of an interactive web-based biomechanics module for an undergraduate Introduction to Ergonomics course. An exploratory study found that student performance on a test was equal regardless of whether they were self-taught using web-based material or the textbook. These initial results raise questions as to the characteristics of a successful web-based course.

HFES Education: Potpourri

Lecture Session EP3 (Friday 1:00-2:15 PM)

Chair: Tracey Bernard, Murray State Univ.

1. Evaluation of Computer-Assisted Instruction in the Secondary Education Environment

Daniel Pazos and Marc. L. Resnick, Florida International Univ.

While computers are often seen as a panacea for many of the limitations of secondary education, research has shown that poor implementation of computer-assisted instruction can decrease student learning. School systems that implement computer technology into their teaching processes need to consider issues such as the nature of the academic content, the sequencing of its presentation, the technological experience of the students, the usability of the computer software and hardware, and the type of feedback provided to students. Software applications must be selected judiciously for best results. This research has two components. In the first study, a broad-based, naturalistic implementation of computer assisted instruction in a high school was investigated. The study covered several course subjects, academic tracks, and student grade levels. Student performance was compared using final course grades for each student. The results showed differential affects of computer-assisted instruction depending on student grade level and track. The second component was a strictly controlled study of eleventh grade students' performance of weekly English vocabulary tests. In this controlled study, students' grades were significantly improved by the computer-assistance software. These studies support the hypothesis that computer-assisted instruction can be used to improve student learning, but suggest that implementation must follow specific guidelines.

2. In Search for Pedagogical Indicators for Evaluating Educational Material

Araci Hack Catapan and Francisco Antonio Pereira Fialho, Federal University of Santa Catarina, Brazil

This study presents an ergonomic-pedagogic evaluation of educational software. The focus of this work is centered in the evaluation of two properties. One of them is ergonomic - usability - and another is pedagogic - learning. The developed methodology consists in application of the following evaluation techniques: verification list (Ergolist) to verify the applicability and conformity indexes, and Interaction Rehearsal to verify the integration among these properties, taking as pedagogic presupposition the classification of learning objectives system by Bloom. The general results indicate that exist integration among these criteria, and that the integration of them can facilitate learning.

3. Preparing to Watch TV: A Training Model for Accessing Captions for Students Who are Deaf

**Margaret S. Jelinek Lewis, Univ. of Idaho, and
Dorothy W. Jackson, Ohio State Univ.**

Adding captions to televised programs was a media modification to enable accessibility of television to people with restricted access to the audio components, such as those who are deaf or hard-of-hearing. Captioned television for the deaf is becoming quite common. In the United States, television captions are generally in written English, however, the English literacy rate among people who are deaf is quite low. Therefore, this research explored a way to make captioned television usable by its intended audience. An instructional method was implemented among a group of junior high school students who are deaf, to train them to be attentive to certain types of information by facilitating their acquisition of knowledge and critical viewing. The initial implementation of the training suggests a need for improving deaf students' access to their prior knowledge to apply to reading comprehension and language related skills. The results of the two-week training of no increase in captioning comprehension bring into question the issue of true accessibility and the utility of the format of captioning as presently developed.

4. Ergonomic Product Design Course Format

John G. Kreifeldt, Tufts Univ.

The Engineering-Psychology B.S. program at Tufts University is the first interdisciplinary undergraduate program in the US and has been in operation since 1972. It is totally consumer



product design oriented largely because designing a successful consumer product (CP) is an extremely challenging problem requiring many different human factors techniques. The single most important CP design challenge is to discover and meet valid user needs in the most satisfactory manner for the consumer compared to some alternate design. The methodologies and format for the course - ENP 161 Human Factors in Product Design - were developed for this purpose over a period of 25 years. This paper presents a succinct description of the methodologies, paradigms, grading and projects defining this course. More information about the B.S. program in Engineering-Psychology and this course can be found at our website <http://www.tufts.edu/as/stu-org/hfes/>.

5. HFES Members' and Students' Career Influences: A Survey

David W. Martin, Michael S. Wogalter, and Meredith F. Yarbrough, North Carolina State Univ.

Surveys were sent to 150 members and 150 student affiliates of HFES asking how they first learned about the field and what or who was the major influence in choosing their career. Approximately half learned about it as undergraduates and about a third as graduate students, usually from a professor. About a third learned about it during work or internship. The survey also asked respondents to indicate what examples they would use to represent the field to a naive listener. Most frequently cited examples included applications in human-computer interaction, aviation/space, ground transportation, and the workplace.

Poster Session 9

1. In Search of a Methodology of Reference for Ergonomic Action: The Sep-Situated Ergonomic Planning

Marcelo Rique Caricio, Gileno de Gouvea Caricio, and Valmira Rique Caricio

<Abstract unavailable in the CD-ROM Congress Proceedings>

2. A Factor-Analytic Approach to Knowledge Areas Used in Human Factors Positions

Lori Rhodenizer, James A. Pharmer, and Clint A. Bowers, Univ. of Central Florida

In a rapidly changing world, human factors professionals continue to debate how the field can best leverage itself for the

future (Howell, 1994). It has been suggested that human factors students and practitioners should broaden their knowledge domain in order to conquer future challenges (Howell, 1994). Preparing our students to face the challenges they will inevitably meet in the workplace involves gathering data concerning what knowledge human factors professionals use on the job, identifying where there may be gaps in the educational curricula, and predicting what areas may become increasingly important in the future. Attempts have been made to gather data concerning the tasks performed and knowledge used by human factors professionals (Van Cott & Huey, 1992). However, recent changes occurring in the field, such as an increased focus on HCI and safety, demand the need to update what is known about the necessary competencies (knowledge, skills, and abilities) needed to perform human factors jobs. In an attempt to gain an understanding of these knowledge requirements, a job analysis approach was used to gain information about the knowledge requirements of human factors professionals.

3. An Evaluation of the Swedish Master's Programme in Ergonomics

Sara Saellstrom Bonnevier, National Institute for Working Life, Sweden

The Swedish Master's Programme were evaluated. The aim of the evaluation was to find out whether the program itself was adapted to the needs, abilities and limitations of the students. Also, to find out how an ideal conference system should be designed. The results showed that the program was well adapted for one third of the students, and that the remaining students primarily wished to change the communication process through the conference system. Suggestions concerning how an ideal conference system should be designed was also given.

4. The Framework for Forming of Ergonomic Terminology

Miroljub Grozdanovic, Univ. of Nis, Yugoslavia

The terminology of today in system ergonomics, demands suitable revision; renewal and supplementation of notions, so that the contemporary ergonomic scientific thought would be comprehensible for both the researchers and the users.

5. Analysis of the Changes in Activities in a School After Installing SGQ ISO 9000

Fernando Toledo Ferraz and Claudio Fernando Mahler, Univ. Ilha do Fundao, Brazil

This paper is the result of a process of intervention in a special school for the mentally impaired. The team worked under the



sponsorship of a state incentive program for disseminating quality in the Rio de Janeiro state organizations. The purpose of the intervention was to formalize administrative procedures and educational practices in the institution. After the school was awarded the ISO 9000 certificate, an assessment was made of the impact of this new system on the perceived workload and in the contents of the tasks performed by the people. The methodology used consisted of assessing the contents of activities at times before and after the implementation of the SGQ. A questionnaire was also used to assess the perception of the employees on changes with regard to the clarity of their roles, perceived work load, level of interpersonal conflict and facility to perform routine activities. The conclusions point to significant changes with regard to the clear understanding of the responsibilities and role of the employees. There seems to be no significant statistic changes regarding the workers' attitude towards the organization. The implementation of the SGQ, in its turn, does not seem to have significantly affected the levels of interpersonal conflict in the organization under study.

Job Postings

Publicize your open positions! Send submissions to the newsletter editor, tracey.bernard@murraystate.edu

What's New!

Send in news of your teaching and research activities. Use this space to promote your programs. Send your submissions to tracey.bernard@murraystate.edu

Have a Book to Publish....

.....Need a Publisher?

Steve Konz made an announcement at the EPG Business Meeting that Holcomb Hathaway Publishers is seeking books to publish.

Web Corner

The EPG is interested in collecting a listing of course web addresses. If you have course information for your students on the web, send tracey.bernard@murraystate.edu your web address so that others in EPG can take a look!

Proceedings 2000 Available

IEA 2000/HFES 2000 Proceedings are available from HFES. The proceedings are available in a 7 volume (5500 pages) set or on CD-ROM. Individual book volumes, arranged topically, are also available.

The prices for ordering options are as follows. The member prices apply for members of IEA-affiliated societies (but not for TG members who are not members of HFES). Special shipping/handling prices apply when ordering three or more books. Call, write or contact HFES (<http://hfes.org/>) for details.

Volumes 1-7, books only	\$495 member	\$570 nonmember
CD-ROM only	\$325 member	\$375 nonmember
Books + CD	\$745 member	\$845 nonmember
Single book (see below)	\$135 member	\$155 nonmember
Volume 7 only	\$75 member	\$85 nonmember

Organization of the Papers in the Proceedings

There are seven volumes in this proceedings, consisting of the following technical categories, drawn from HFES and IEA technical groups. A multiple-session symposium consists of up to eight individual paper sessions.

Also included in Volume 4 are two brief summaries of Plenary Speeches, of which 26 were presented at the Congress. Longer papers capturing the text of all the Plenary Speeches are included in a special issue of the journal *Ergonomics* (Vol. 43, No. 7, July 2000), published by Taylor and Francis and provided to all Congress attendees as a supplement to these proceedings.

Volume 1: Cognitive Ergonomics, Computers, and Communication

Cognitive Ergonomics

Communication

Computer Systems

Internet

Virtual Environments

Multiple-Session Symposia

Cognitive Ergonomics

Cognitive Modeling

Ergonomics of Computer Work

Human Performance Modeling in System Design

Volume 2: Organizational Design and Management, Environmental Design, Education, and Training

Cost-Effective Ergonomics

Environmental Design

Education

Macroergonomics

Training

Multiple-Session Symposia

Applications of Psychophysiology in Macroergonomics

Corporate Initiatives in Ergonomics

Ergonomics and TQM

Macroergonomics Methods and Tools for Improved

Performance

Process of Ergonomic Training and Its Impact

Work Design in the 21st Century

Volume 3: Complex Systems and Performance

Aerospace Systems

Agriculture

Human Reliability

Individual Differences

Power Systems

Psychophysiology in Ergonomics



Transportation
Visual Performance
Multiple-Session Symposia
Control Room Ergonomics
Ergonomics in Agriculture and Food Production
Human Reliability
Human Factors in Aviation Maintenance
Human Factors in Power Systems
Ecological Approach to Interface Design
Ergonomics of Sound

Volume 4: Safety and Health, Aging

Aging
Forensics
Medical Systems and Rehabilitation
Safety
Multiple-Session Symposia
Biomechanics of the Lower Back
Distribution Center Ergonomics
From Research to Reality on Slips, Trips, and Falls
Hand Ergonomics
Integrating Health & Safety with the Design of
Medical Devices
Occupational Safety and Health
Rehabilitation Ergonomics
Safety Communications: Visual Warnings

Volume 5: Manual Work

Industrial Ergonomics
Musculoskeletal Disorders
Multiple-Session Symposia
2nd International Symposium on Ergonomics in
Building and Construction
Musculoskeletal Disorders for Upper Extremities

Volume 6: Product and System Design, Miscellaneous Topics

Consumer Products
General Sessions
Special Sessions
Standards
System Development
Test and Evaluation
Multiple-Session Symposia
Asian Ergonomics
Communicating with Designers
Contemporary Engineering Anthropometry
Ergonomic Design by Means of Human Models
Ergonomics on Both Sides of the Atlantic
Inclusive Design and Usability

Volume 7: Cumulative Table of Contents, Author and Key Word Indexes

Calendar of Events

88th Annual NSC Congress and Expo, October 13-20, 2000, Orlando, FL. National Safety Council, 1121 Spring Lake Dr., Itasca, IL 60143-3201; 630/285-1121, fax 630/285-1315; customerservice@nsc.org, <http://www.nsc.org/congress.htm>

Human-System Interaction: Education, Research and Application in the 21st Century, November 1-3, 2000, Maastricht, the Netherlands. Clemens Weikert, Work Science Division, Dept. of Psychology, P.O. Box 213, SE-221 00 LUND/Sweden, fax +46 46 222 4223;

Human Performance, Situation Awareness and Automation: User-Centered Design for the New Millennium, October 15-19, 2000, Savannah, GA. David Kaber, Dept. of Industrial Engineering, P.O. Box 9542, Mississippi State University, MS 39762; kaber@engr.msstate.edu; or Mica Endsley, SA Technologies, Inc., 4731 E. Forest Peak, Marietta, GA 30066; mica@satechnologies.com, <http://www.ie.msstate.edu/hpsaa/index.html>.

Conference on Enhancing Work Conditions and Patient Safety: Best Practices, October 17-18, 2000, Pittsburgh, PA. Anita Schill zjn3@cdc.gov, <http://www.quic.gov/>.

25th International Design Management Institute Conference, October 22-26, 2000, Chatham, Cape Cod, MA. Design Management Institute, 29 Temple Pl., 2nd Floor, Boston, MA 02111-1350; 617/338-6380, fax 617/338-6570; <http://www.dmi.org>.

World Congress on Environmental Design for the New Millennium, November 8-22, 2000, Seoul, Korea. INTERCOM Convention Services, Inc., 4FI. Jisung Bldg., 645-20 Yoksam 1-dong, Kangnam-gu, Seoul, 135-081, Korea; +82 2 3452 7291, fax +82 2 3452 7292; seoul2000@intercom-pco.co.kr, <http://www.millenniumed.org>.

10th International Forum on Design Management Research and Education, November 16-18, 2000, Frankfurt, Germany. Design Management Institute, 29 Temple Pl., Boston, MA 02111-1350; 617/338-6380, fax 617/338-6570; edonahue@dmf.org, <http://www.dmi.org/conferences/forum00/index.shtml>.

APCHI/SEAES 2000: Joint Conference of S. E. Ergonomics Society and Asia Pacific Conference on Computer Human Interaction, November 27-December 1, 2000, Singapore, China. Lim Kee Yong, Nanyang Technological University, School of Mechanical and Production Engineering, 50 Nanyang Ave., Singapore 639798; fax +65 791 1859; sea.apchi2000@pacific.net.sg, <http://www.drc.ntu.edu.sg/users/c2000>.

Designing Our Future: The First Joint Conference of the American Society on Aging and the National Council on the Aging, March 8-11, 2001, New Orleans, LA. American Society on Aging, 833 Market St., Suite 511, San Francisco, CA 94103; info@asaging.org, <http://www.asaging.org/>.



ISI 2001: Tutorial on Effective Anthropometry,
March 17-21, 2001, Dubai. Kathleen Robinette, Wright
Patterson AFB, OH 45433-7022;
kath.robinete@he.wpafb.af.mil, <http://www.icsc.ab.ca.160-tut.htm>,
<http://www.icsc.ab.ca/160-tut.htm>.

Work Congress 5: 5th International Congress on Work Injuries, Prevention, Rehabilitation and Compensation, March 18-21, 2001, Adelaide, Australia. Kim Tolotta, Project Manager, WorkCover Corp., Level 1, 100 Waymouth St., Adelaide, S. Australia, 5000; +61 8 8233 2173, fax +61 8 8233 2000; ktolotta@workcover.sa.gov.au;
<http://www.workcongress5.org>.

16th Annual Conference on Technology and Persons with Disabilities, March 19-24, 2001, Los Angeles, CA. Center on Disabilities, California State University, Northridge, 18111 Nordhoff St., Bldg. 11, Suite 103, Northridge, CA 91330-8340; 818/677-2578, fax 818/677-4929; ctrdis@csun.edu,
<http://www.csun.edu/cod/>.

International Symposium on Smart Graphics, March 21-23, 2001, Hawthorne, NY. Symposium Secretariate, IBM J.T. Watson Research Center, <http://www.smartgraphics.org>.

4th Annual Applied Ergonomics Conference, March 12-15, 2001, Orlando, FL. 800/494-0460;
<http://www.iienet.org/conted/ergoconf.htm>

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Newsletter Editor 2000-2001

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Editor's Corner

Hi there! I'll be your replacement newsletter editor (filling in for Barrett Caldwell's second year) for the 2000-2001 year.

I'd like to start off by thanking Carter Kerk for offering advice on this newsletter business and ensuring that I received the info I needed to get the newsletters to you. Thanks, Carter!

This edition of the newsletter focuses on EPG business and research/poster sessions that took place at the Annual Meeting. Since a newsletter wasn't published prior to the meeting, the abstracts are printed here so you can check out what you missed!

On a new note, send me your *What's New!* updates on yourselves and your programs. I look forward to hearing from you about courses you're teaching, recent changes to your courses or programs, research you or your students are doing, ideas for newsletter articles, or feedback on the newsletter.

And finally, if you received this newsletter via snail mail but prefer email, please supply HFES with your correct email address. If you prefer to receive this newsletter via snail mail, contact me (info. at the top of this column) and let me know!

Tracey Bernard
tracey.bernard@murraystate.edu

Checklist: Did You Remember to...?

- Send Gary (klatsky@oswego.edu) your VOTE to revise the group's mission statement?
- Send Gary your nominations for new officers (chair, program chair elect, newsletter editor, webmaster)?
- Send Gary your ideas for the taxonomy of human factors and ergonomics specialty areas (related to the EPG), and/or experts in each specialty area?
- Send Gary the names/authors of your top 3 influential HFES/educators' publications?
- Send Deivy (deivy@tntech.edu) your ideas for Minneapolis 2001 panels/sessions, or volunteer to be on a panel?
- Send Tracey (tracey.bernard@murraystate.edu) your course web addresses, *What's New!* updates, newsletter preferences, job postings, and/or comments?
- Update your email address with HFES (if needed)?



Vote to Change Mission Statement

Education Technical Group Mission Statement

The Education Technical Group (ETG) is concerned with the design of educational systems, environments, interfaces, and technologies and with human factors education. The group consists of educators, researchers, students, and others interested in educational human factors and ergonomics, directed at improving educational design and in addressing the educational needs of those seeking to increase their knowledge and skills in the human factors and ergonomics field.

Please mail your ballot to:

Gary J. Klatsky
Department of Psychology
State University of NY at Oswego
Oswego, NY 13126 USA
Fax: (315) 312-6330
Email: klatsky@oswego.edu

Print Name _____

Sign Name _____

- The Educators' Professional Group **should** expand its scope to include educational ergonomics
- The Educators' Professional Group **should not** expand its scope to include educational ergonomics

Call for Nominations

It's time to start nominating new officers. Elections will be held in January 2001. Please note that the nominees, as well as the nominator, must be EPG members. Send your nominations (including yourself) by email, mail, or fax by December 15, 2000, to:

Gary J. Klatsky
Department of Psychology
State University of NY at Oswego
Oswego, NY 13126 USA
Fax: (315) 312-6330
Email: klatsky@oswego.edu

<u>Position</u>	<u>Nominee</u>
Chair 2001 – 2003	_____
Program Chair, Elect 2003 – 2004	_____
Newsletter Editor 2001 – 2003	_____
Webmaster 2001-2003	_____





Educators' Professional Group

Tracey M. Bernard, PhD, PE
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USA

Application for Membership

Educators' Professional Group, Human Factors & Ergonomics Society

Membership in the EPG does not require membership in the Human Factors and Ergonomics Society. EPG dues are currently suspended; EPG membership is free at this time. Please print.

Name: _____

Title: _____

University/Organization: _____

Address: _____

Phone: _____

Fax: _____

Email: _____

Are you a full time student? yes no

Are you a member of HFES? yes no

Please mail this application to:

Human Factors and Ergonomics Society, PO Box 1369, Santa Monica, CA 90406-1369 USA

