



THE PROFESSIONAL ERGONOMIST

The Newsletter of the BCPE

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RE-CERTIFICATION REVISITED

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Certification is a voluntary process in which an individual attempts to meet a set of standards developed by a certification organization. The certification organization is generally made of professionals (the applicant's peers), who have used information from job analysis to develop the standards. Standards generally include education/training, experience, and knowledge demonstrated through examinations. Should the applicant achieve the standards, he or she is then authorized to use the title owned by the certification organization. Most certifications also require periodic re-certification (Brauer and Rice, in press). Possible value given to certification by individuals and groups are enumerated below in Table 1.

Table 1: Value of Certification

Practitioner
- Personal satisfaction
- Eligibility for career enhancement
- Increased responsibility
- Variety of jobs
- Pay increases/bonuses
- Promotion
- Immediate recognition of basic qualifications by potential employers
Employer
- Aids hiring process, both for full-time and contract employees:
- Immediate recognition of basic qualifications of potential employees
- Identification of "experts" in a field
Profession
- Assists to define professional practice, as well as knowledge, skills, and abilities of practitioners through the process of job analysis, development of standards, and development of examination content
- Develops a "pool" of practitioners that have met baseline standards

¹ Those being certified as CPE/CHFP also demonstrate their skill/knowledge through submitted work products.

Under the current certification procedure for BCPE, those who have received an acceptable education, practiced human factors/ergonomics for the required length of time, and who have passed an examination that tests basic knowledge in human factors/engineering become certified¹. The system grants a lifetime certification, as long as the certificant pays the required renewal fee and does not violate the code of ethics. BCPE certification was developed with a noble goal of protecting the public by giving those hiring practitioners assurance that a certified Human Factors/Ergonomics practitioner has a minimum, basic set of knowledge and skills. BCPE has achieved that, but do we need to go beyond that initial look? Does it matter to those who hire ergonomists, to BCPE certificants, or to other competing practitioners who call themselves ergonomists that those who are certified may not continue to maintain their knowledge or skills for the next twenty years?

The average person seems to believe that licensure (or certification) carries with it some assurance of quality or competence, whether or not that is always the case (Kany, 1996).

Thus, the average person (and we, as human factors/ergonomics professionals know there is no such thing as an average person) thinks those of us with initials behind our names proclaiming our certification status possess some level of competence. Good. That means, right then, right there, BCPE has accomplished what it set out to do — or does it? Is the public perception accurate? Do our certificants have a basic knowledge and skill level? Well, yes, we know they did at one moment in time....

What is "continued competency?" Why is the term often used interchangeably with "re-certification?"

Competent is defined as 1) properly qualified; capable, 2) adequate for the stipulated purpose; sufficient, 3) legally fit or qualified; admissible, and 4) having the capacity to function or develop in a particular way (Merriam-Webster's Collegiate Dictionary, 1993). Operationally defined, competence refers to a person's ability to complete a particular action or set of actions, in a specific environment, to a set of standards. To say an individual is competent implies that the individual has, and applies, a requisite set of knowledge, skills, and behaviors to a specific criterion. Performance appraisals, for instance, are, or should be, based on

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criteria for assessing competencies. Although having achieved certification does not guarantee a particular level of on-the-job performance, the assumption is that the underlying knowledge, skills, and abilities needed to function as a competent professional, within the area of practice in which one is certified, have been assessed during the certification process. According to the National Organization of Competency Assurance (which is explained in a later section of this article), "Credentialing is the process of granting a credential, that is, a designation which indicates competence in a subject or area" (Fabrey, 1996, p. 2). The NOCA handbook further states "The intent of certification...normally is to inform the public that individuals who have achieved certification have demonstrated a particular degree of knowledge and skill" (Fabrey, 1996, p. 3). The implication is that re-certification is related to continued competence, just as initial certification is related to competence, and many texts and articles on re-certification use the terms interchangeably.

Competence is knowing what to do and doing what you know (Winn, 1996).

Competence is knowing what you know; knowing what you don't know; and knowing when it matters (Sheets, 1996).

As our profession and the tools and methods we use within our profession evolve, so the knowledge and skills we possess must develop, lest we allow ourselves to drift into incompetence and obsolescence. Competence is not a static entity. I wish it were. I could sail more and read less, if that were the case. Competence is a dynamic process, however, that changes throughout one's professional career. There is no controversy over the need to remain competent. The controversy is focused on who should do what, when, and how. Should the individual or the employer take responsibility, or should the credentialing process include re-certification? What role should the professional associations have, especially in light of their commitment to practice standards? What kinds of activities, learning, and experiences help to ensure competence? Do these experiences equate with behavioral measures of competence? How should we measure competence? How much will this cost and will benefits outweigh the costs?

Why should the BCPE become involved with re-certification?

Public Accountability and Quality Assurance

It is believed that practitioners who have not continued to update their knowledge, and skills, and who have slipped into a level of incompetence, produce poor quality outcomes in their practice. It could be hoped that practitioners who continue to work full-time in their area of expertise maintain competency through experience, and if they did not, that their employers would terminate their employment.

In a recent series of studies by Kruger and Dunning (as cited in Goode, 2000), individuals who scored in the lowest quartile on tests of logic, English grammar, and humor were also the most likely to "grossly overestimate" how well they had performed.

One reason that the ignorant also tend to be the blissfully self-assured, the researchers believe, is that the skills required for competence often are the same skills necessary to recognize competence. The incompetent, therefore, suffer doubly, they suggested in a paper appearing in the December issue of the Journal of Personality and Social Psychology. "Not only do they reach erroneous conclusions and make unfortunate choices, but their incompetence robs them of the ability to realize it," wrote Dr. Kruger, now an assistant professor at the University of Illinois (Goode, 2000).

Now there is a frightening thought. The least competent individuals were the most confident in their performance and abilities, while the most competent underestimated their performance. According to the authors, the highly competent subjects assumed other subjects performed as well as they did — a phenomenon psychologists term the "false consensus effect." Their results must be viewed critically, of course, and the research did not include ergonomists as test subjects. However, the point is that an individual may not always be the best judge of his or her abilities, just as employers sometimes maintain employees who no longer practice at the level they should.

When an individual who has achieved certification does not perform at the expected baseline level of competence, his or her actions can affect all others who have that same level of certification.

_____ is a certified professional ergonomist and you wouldn't believe what he did when working at _____ Corporation! He's incompetent! That designation of CPE means absolutely nothing!

The credibility of the certification process and of the certificants themselves is questioned whenever a single certified practitioner is unable to maintain competency. Not updating one's skills is only one cause of incompetence; it can also be the result of chemical impairment, emotional or physical disability that impairs functioning, and unethical behavior. Unfortunately, some of these areas are less likely to be taken care of by self-monitoring.

Public perception, as mentioned above, is that an individual who is certified has a particular level of skills and abilities at all times, not that they had the skills and abilities at one point in time during their career. For example, the Citizen Advocacy Center (CAC) has taken issue with the position that licensure is for life and issued a statement recommending that licensing and certification systems reassess their responsibilities for assuring continued competence (i.e. re-certification). Although the CAC report focused on health care, their issues, of wanting some level of assurance that a licensed or certified individual is proficient and that public safety will not be compromised, are the same issues some of our constituents expect of us.

Regulatory Systems

...continuing competence is the goal of public protection and the heart of professional practice. It must be the focus of regulation of the professions by government and proactive professional associations (Gray, 1997, p. 3).

During the past two years, the BCPE has participated in meetings of the National Organization of Competency Assurance (NOCA). NOCA's interest in certification evolved from a 1977 federal commission for developing standards of excellence for voluntary certification. NOCA comprises more than 150 professional organizations in the United States. NOCA is committed to excellence in voluntary certification; it "... advocates and advances quality practices in competency assurance to serve the best interests of certificants, employers, and the public" (Maronde, 1996, p. x). NOCA develops standards, evaluates methods for assuring competency, disseminates results of competency assurance research, and recommends policies for certifying organizations. According to NOCA, "A certification organization that conducts a certification program or programs that evaluate the competence of practitioners, has a responsibility to individuals seeking and holding certification, employers of those

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individuals, agencies and customers that pay for or require the services of the practitioners, and the public. The competent practitioner performs work accurately and in the best interest of the consumer, makes correct judgments, and interacts with other professionals and customers effectively. Competence must be demonstrated and maintained throughout the individual's practicing life" (NCCA, 1996, p. xiii).

Evidently, the individuals who founded NOCA, through the federal commission, felt certifying agencies (such as BCPE) should not be policing themselves. Two organizations which accredit certification programs and organizations are the National Commission for Certifying Agencies (NCCA) and the Council of Engineering and Scientific Specialty Boards (CESB). Both organizations evaluate the practices of credentialing bodies, such as their methods of evaluating their certificants (for example, test development and test administration). Just as an individual BCPE certificant voluntarily enters the process, credentialing bodies voluntarily submit to this evaluation in order to be accredited. One of the standards that must be met to achieve accreditation is to have a system of re-certification. Being accredited would result in several benefits. It will ensure (1) impartial and independent review to assure established certification standards are met (thus the Board of Directors of BCPE is shown to be acting in good faith), (2) enhanced credibility of the BCPE certification program, and (3) national recognition of CPEs/CHFPs and CEAs. The third benefit refers to the fact that government agencies, as well as some other employers, often do not know which certifications are high quality certifications. For example, some certifications require only that an individual attend a particular course. The course director awards the individual a certification once they complete the course and pass an exam. Thus, in an effort to identify meaningful credentials during their hiring processes, government agencies or employers will recognize credentials achieved through accredited certification organizations only (Brauer, 1999, personal communication).

Credibility

The aforementioned accreditation of BCPE via a certifying commission would increase the credibility of both BCPE and BCPE certificants. Another avenue, which should increase credibility, is the recognition of BCPE by professional membership organizations in the field of Human Factors/Ergonomics.

In 1997, the International Ergonomics Association (IEA) endorsed certification standards including those that require defining a specific period for currency and a **process for maintaining currency**. The "IEA Minimum Criteria" for "The Process of Certification of an Ergonomist", section C, reads "The IEA recommends that certification be provided for a finite period (for example, five years) and that a suitable process for re-certification be defined by the certifying body, in which the applicant must demonstrate their **continuing work in ergonomics**." The Human Factors and Ergonomics Society, as well, is investigating its criteria for endorsing credentialing agencies in the field of Human Factors/Ergonomics.

Thus, it is clear that some mechanism for 're-certifying' certificants will be necessary to achieve accreditation from either NCCA or CESB. Re-certification also appears to be needed to gain recognition, and thereby some modicum of credibility, from our own professional societies.

What process of re-certification should be used? How does one measure continued competency?

Organizations that certify physicians do not claim to assess their competence. They look at what they consider to be competence and try to examine several of its components (Young, 1996).

Surely, simply adding up the number of continuing education hours an individual has amassed in a given period of time does not ensure competency. Other organizations have used oral and/or written examinations, practice audits, required practice hours, peer review, continuing education, record review, simulations, work samples, client satisfaction surveys, and guided self-evaluations through professional portfolios. Additional methods to demonstrate continued growth in one's professional life are self-study, mentoring, teaching, presentations, publications, and research.

The goal is to have qualified professionals, therefore the evaluation methods should be non-punitive, non-threatening, reasonably priced, and objective. Many specialty and board certification programs require re-certification every five to ten years (Moyers, 1998). Still others use "markers" to identify those practitioners who may be at risk, such as those who have received disciplinary action, changed their area of specialization, received advancement to a higher level of practice, or taken an extended period of time off from practice.

It appears that using multiple measures and pathways are the most desirable, as it is clear that "one size fits no-one". The key will be to select a method or methods that best meets the needs of BCPE certificants. For this, we need continual feedback and dialog with certificants. In future publications, perhaps we can cover questions certificants may have, their opinions (as seen in this issue), or some of the strengths and weaknesses of different methods of evaluation. For example, the strengths and weaknesses of continuing education are presented in Table 2.

Table 2: Strengths and Weaknesses of Continuing Education as a Measure of Continued Competency

Strengths	Weaknesses
- Meets individual learning needs	- Lack of quality control in terms of course content and attendee involvement
- Flexible	- Typically no outcome measurement
- Multiple levels available	- No evidence of use of information in practice arena
- Familiar concept to practitioners and organizations	- Administrative responsibilities increase to track the data (esp. if done by the professional organization)
	- Can be expensive for the practitioner, esp. depending on status (new practitioner, retired and working part time)

A method involving multiple assessments was published in *The Professional Ergonomist*, Vol. VII, Number 1, March 20, 1999. After the article appeared, comments were received from CPEs and CHFPs. A listing which incorporates the range of comments can be summarized as follows:

1. *There is no need for re-certification.*
2. *The suggested criteria for re-certification are too academic.*
3. *There are basically only two categories that are relevant to the practice of ergonomics - actual practice of the discipline and additional ergonomics training.*
4. *Professional membership is not relevant to competence.*
5. *Volunteer service is not relevant to competence.*

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6. Professional publications might be relevant to competence.
7. Providing questions for the CPE or the CEA examination is not a worthwhile category.
8. Attendance at professional society conferences in themselves have no relevance.
9. Perhaps giving a paper at a conference might be relevant.
10. Continuing education should be encouraged.
11. Graduate level college courses that do not have ergonomics as a focus, but are relevant in the overall effectiveness of a CPE (e.g., business classes), should be considered.
12. Teaching academic ergonomics courses with weighting by semester hour may not be appropriate.
13. Points for academic degrees are not appropriate. Most practitioners have completed degree requirements many years ago.
14. Service to the ergonomics community has to be better defined.
15. Re-taking the CPE or CEA examinations is not an appropriate category for points.
16. Provisions should be made for a person to be able to earn points without the extended support of his or her company.
17. Extended years of experience should also be considered; twenty year veterans have given papers, taken courses, and chaired committees and credit should be given.

As may be obvious from the comments, there was disagreement on what constitutes an effective method to assess continuing competence. A committee of CPEs/CHFPs was developed to address these concerns and continues to discuss various alternatives. Once a consensus is developed, the committee will present their results to BCPE certificants.

Conclusion

The idea of re-certification is not going away. The public brings up the issue, the legal system raises the question, and even our professional organizations have identified re-certification as a necessary item for endorsing organizations, which credential individual practitioners. Knowing this, we must explore methods and time tables, which are acceptable in meeting both individual certificant and organizational needs. As such, the Board of Directors has made the following observations:

- BCPE certificants are professionals. As such, they are committed to the profession and to maintaining their competence. Their motivation is intrinsic.
- Any competency plan should focus on quality improvement, not on disciplinary action or monitoring practitioners.
- Any competency plan should be administratively feasible, publicly credible, professionally acceptable, legally defensible, economically feasible, and user friendly from one employment setting to another.
- There is a core of knowledge necessary to practice in the field of human factors/ergonomics which includes (but is not limited to): knowledge of human performance, systems conceptualization/analysis, task analysis and synthesis, design, matching of human performance with environmental demands/constraints, test and evaluation including statistics, and professional ethics. Regardless of the specialty in which an individual may practice, the core knowledge is present and utilized.
- Competency across one's professional career moves from basic knowledge and skills to specialized practice, thus any re-certification plan must focus on core knowledge as it applies to the individual practitioner and the competencies necessary in his or her professional practice.

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SURVEY REVEALS CERTIFICATION'S PERCEIVED VALUE

by Anna Wichansky, PhD, CPE
Chair, BCPE Marketing Committee

Summary

As many of you know, a survey of the entire BCPE Certified ergonomist database was conducted between July 13-August 10, 1999. The purpose of the survey was to determine the perceived value of certification to ergonomists, and certificants' attitudes toward current and proposed policies of the BCPE. These included communication via the Web site, certification methods, fees, and recertification. In addition, demographic and salary data were collected. The survey achieved an excellent 43% return rate. The sample appears to be representative of the BCPE population based on available demographic data.

In general, survey respondents reported that they are still waiting for their investment in certification to pay off professionally. They almost unanimously agreed that certification raises the professional standard for ergonomists, and a slight majority think that career success in the future will depend upon certification. The greatest value of certification is the credential itself (the letters after their names). To add more value, they would like BCPE to lobby employers to hire certified ergonomists, publish articles on the value of hiring certified ergonomists, and lobby government and industry to enact ergonomic standards.

Regarding their opinions of the BCPE organization, the majority perceive their interaction to be minimal. Slightly over half have visited the Website.

Most respondents do not seem adverse to the cost of certification renewal. One-third of them get their fees reimbursed through their employers. Respondents were negative on providing alternatives to testing as a process for qualifying for the certification. They were also negative on going through a recertification process every 5 years.

About one-third of the respondents provided salary data. The mean salary over all was \$72,262. The mean salary of psychologists in the sample exceeded that of the other majors. The mean salary of human-computer interaction specialists exceeded that of other specialties.

Recommendations for future strategy were made to the BCPE at the last Board meeting in September in Houston, to address the main issue of adding long-term perceived value to certification based on the survey results. We formed a marketing committee and have a number of goals and action items. These include increasing the presence and visibility of certified ergonomists with employers, our professions, universities, industry and government, and the public at large. The Board has a number of action items to complete that will help in this regard.

Background

When I joined the Board in 1998, the Directors were interested in increasing the number of certified ergonomists to ensure the viability of BCPE certification and raise the overall standards for the profession. As part of this effort, I set about to determine certain facts and opinions concerning the current body of BCPE-certified ergonomists. In particular, I was interested in how they valued their certifications, and what BCPE could do to increase that perception of value. At the April 1999 meeting in Denver, I proposed to survey the complete certified ergonomist database, in order that future efforts of the

Board and the Central Office become more focused on certified ergonomist growth and retention strategies.

Method

A 17-question survey was developed addressing current and future policies and practices of the BCPE, including the Web site, maintenance fees, value of certification, recertification, and demographic items such as salary. A total of 825 surveys were sent out. Of these, 538 were administered on-line, via email, following the updating of email address records by the Central Office last May and June. A smaller number (287) were mailed in hard copy to certified ergonomists without email addresses. Certified ergonomists could also access and download the survey via the Website, with the option to print out and fax or mail back hard copies. The survey distribution was conducted between July 13-August 10, 1999.

The data were collected, coded, and entered into an Excel spreadsheet form by Kris Alvord, our Executive Administrator. The spreadsheet was then emailed to me and I performed standard descriptive analyses on the quantitative data. In addition, the Central Office compiled all written comments into Word files.

Survey Results

The overall survey return rate was 43%. This is quite good for a mail survey, especially considering the summer vacation timing, which was expected to rather depress the return rate.

A total of 351 usable surveys were analyzed. Two additional surveys came in after the August 10 due date; this was too late to be included in the quantitative portion of the analyses but the comments are still included in the Central Office compilation.

The results are summarized below by survey item with illustrative excerpts of the written comments from respondents on the survey.

Opinions

1. *How many times during the year do you contact the BCPE?* (n=348 responses)
 - 80% of the respondents said 1-5 times per year. Of note, 16% said never (0).
2. *What is the purpose of the contact?* (3 most frequent) (n=586 responses)

The top 3, most frequent purposes of contact were:

 - pay maintenance fee (44% of the respondents checked)
 - change address or other data (17%)
 - certified ergonomist directory information (12%)

The bottom 3, least frequent purposes of contact were:

 - make purchases (2%)
 - calendar information (3%)
 - get references to professional societies or other technical resources (4%) tied with Other (4%)
3. *Have you visited the BCPE Website?* (n=351 responses)
 - 60% have visited the website. 40% have not visited the website.
4. *How would you rate the current Website?* (n=196 responses)
 - On a 7 point scale where 1=very poor and 7 = very good, the mean rating was 4.19 (neutral).

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5. How many times during the year are you contacted by BCPE? (n=347 responses)
- 87% of the respondents said 1-5 times per year.
6. What is the purpose of the contact (check 2)? (n=648 responses)
- The two most frequently checked items were fee solicitation (41% of responses) and the newsletter (47% of responses).
 - The two least frequently checked items were address change or data solicitation (7%) and other (5%).
7. How would you rate the quality of your interaction with BCPE? (n=330 responses)
- On a 7 point scale where 1= very poor and 7=very good, the mean rating was 4.56 (neutral to slightly positive).
8. How much do you pay per year in maintenance fees? (n=351 responses)
- The largest response category, 47% of the base, did not recall what they paid. Of the 53% who could remember, the mean response was \$87.30. (The current fee is \$100/year).
9. How would you rate your satisfaction with the benefits you receive from BCPE? (n=337 responses)
- On a 7 point scale where 1= very low and 7=very high, the mean rating was 3.96, just slightly negative of the neutral point.
10. How willing are you to continue paying maintenance fees to BCPE? (n=341 responses)
- On a 7 point scale where 1 = very unwilling and 7 = very willing, the mean rating was 4.77, slightly more positive than neutral.
11. How would you rate the value of BCPE certification in your professional career? (n=335 responses)
- On a 7 point scale, where 1 = very low and 7 = very high, the mean rating was 4.57, slightly more positive than neutral.
12. Check any of the following statements that are true for you: (n=790 responses)
- 87% agreed that: Certification raises the professional standard for ergonomists.
 - 52% agreed that: In the future, career success in ergonomics will depend upon certification.
 - 38% agreed that: Being certified has helped me to get jobs and/or consulting work.
 - 32% agreed that: My employer pays for my certification maintenance fees.
 - Less than 10% agreed that: My employer pays more to certified ergonomists or that My employer requires me to be certified.
13. What aspects of certification seem to be of greatest value (top 3)? (n=891 responses)
- The three aspects of certification of greatest value were:
- certification credential (letters after your name) (33%)
 - lobby for ergonomic causes in government (18%)
 - newsletter (15%)
14. What aspects of certification seem to be of least value (bottom 3)? (n=741 responses)
- The three aspects of certification of least value were:
- pin (37%)
 - printed certification applicant guidelines (16%)
 - liaisons to related disciplines (e.g. ABIH) (16%)

15. What additional services should BCPE provide (top 5)? (n=1278 responses)
- The top 5 additional services respondents wanted were:
- lobby employers to hire certified professional ergonomists (16%)
 - publish articles on the value of hiring certified ergonomists (16%)
 - lobby government and industry to enact ergonomic standards (15%)
 - training courses for applicants to prepare for certification exam (11%)
 - ergonomic features in allied disciplines' publications (11%)
16. How do you feel about BCPE providing alternatives to testing as a certification process? (n=333 responses)
- On a scale of 1 to 7, where 1 = very unfavorable and 7 = very favorable, the mean rating was 3.37. This clearly is negative.
17. How do you feel about going through a recertification process every 5 years? (n=328 responses)
- On a scale of 1 to 7, where 1 = very unfavorable and 7 = very favorable, the mean rating was 3.49. This is also clearly negative.

Demographics

The demographic results indicate that the sample is valid in representing BCPE certified ergonomists based upon comparable criteria such as highest degree and status, where there is comparable data available from the central office.

Employers (n= 277 responses)

Respondents were given an open-ended item and listed over 200 employers. These represented all manner of corporations, government agencies, universities, medical facilities, consulting firms, and self-employment in the U.S. and international. These are too numerous to mention or categorize but are believed to be a good cross-section of the population of certified ergonomist employers.

Job titles (n= 250 responses)

Respondents were given an open-ended item to write in their job titles. Again, these are too numerous to categorize and represent about 200 different titles.

Highest degree (n=333 responses)

About 9% held Bachelors, 44% Masters, and 47% Doctorate degrees. This is extremely close to the BCPE Central Office statistical distribution on the entire population (9%, 47%, and 44% respectively).

Academic Major (n=327 responses)

The respondents data were categorized into the following disciplinary majors: Engineering 38%, Psychology 30%, Other 13% , HFE/Ergonomics 9%, and Multiple Majors 9%. The match to the general population of certified ergonomists cannot be determined, due to lack of population data on this item.

Certified Ergonomist Status (n=334 responses)

The distribution of respondents by certified ergonomic status is as follows: CPE/CHFP 90%, AEP/AHFP 7%, CEA 3%. This very closely represents the certified ergonomist

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population. Comparable figures in the whole population were 89%, 8% and 2%, respectively.

Ergonomic specialty (n=325 responses)

- Industrial 28%
- Workplace 24%
- Human/Computer Interaction 22%
- Other 17%
- Multiple 9%

Salary (n=110 responses)

About 1/3 of the respondent sample provided salary numbers. These have been analyzed in a variety of ways to understand better where the financial situation of the sample.

The mean salary was \$72,262, with a standard deviation of \$38,406. The minimum salary was \$500. The maximum was \$231,000.

The following tables represent breakdowns of salary by various other demographic characteristics:

Salary by degree

	Bachelors	Masters	Doctorate
Mean \$	62,130	62,213	91,534
n in Mean	10	54	45

Salary by status

The only status for which there was sufficient data to calculate a mean was CPE/CHFP. The mean salary for n=95 respondents was \$73,974.

Salary by major

	Psychology	Engineering	Multi-disciplinary	HFE/Ergo	Other
Mean \$	86643	73974	*****	64154	56365
n in Mean	24	95	2	13	13

***** insufficient data to generate statistic

Salary by specialty

	Industrial	Workplace	Multiple	HCI	Other
Mean \$	74671	66412	*****	86219	78559
n in Mean	42	25	7	13	17

***** insufficient data to generate statistic

Recommendations

BCPE should attempt to address the major issues of certified ergonomists for lobbying employers and the government in a strong and visible way over the next 2-5 years. What is needed most is an extensive public relations campaign. The value of ergonomics certification needs to be made much more visible to employers, who currently pay one-third of the dues. Long term, ergonomists need to perceive that they are getting professional, employment, and/or salary advantages by having the certification.

In terms of marketing, BCPE should target those areas that seem to be growing in the ergonomics field, particularly computing and workplace industrial ergonomics. Incentives should be set up for certified ergonomists to actively recruit new certified ergonomists. Directors should chair sessions at

professional conferences and publish papers describing and discussing the advantages of certification.

BCPE should continue with testing as the primary means of certification. Certified ergonomists do not want this process watered down.

BCPE should continue to research and refine recertification strategies, which have the potential of making the certification more valuable in the long-run. But first certified ergonomists need to feel their current certifications are of clear professional and career value.

The Website should be developed to support content-related objectives as needed to improve communication with certified ergonomists.

BCPE Marketing Strategy

The following ideas were discussed in the first brainstorming meeting of the marketing committee. Many of these ideas reflect input provided by the survey respondents. Some of them have already been accomplished or are underway, as noted; most are simply possibilities which require concrete proposals and board approval before they can be implemented. Your continued interest and participation in any of the items below would be appreciated.

Short-term (next 6 months)

1. Form marketing committee. Committee members will perform marketing tasks along with BCPE central office staff. (done)
2. Develop marketing communications materials:
 - employer packet (underway)
 - Powerpoint presentation for promotion (underway)
 - brochure on BCPE public positions
3. Develop on-line job bank. (underway)

Long-term (next 1-3 years)

4. Set-up and deliver presentations at HFES, ACM SIGCHI, AIHA, and other professional conferences. (underway)
5. Develop proposal to form a public protection interest committee.
6. Investigate and hire public relations consultant for non-profit organizations.
7. Recruit new certificants from college ergonomics programs.
8. Research vendors for a CPE preparatory short course.
9. Develop program for key employers. Identify key hiring managers in industry and government to target for promotion.
10. Begin lobbying for key industry policies, standards, and legislation in ergonomics (i.e. deliver value-added content).
11. Develop recertification methods of long term value which promote certification renewal.
12. Develop alternate pricing structure proposal for certification renewal fee.
13. Solicit companies to make donations.
14. Repeat certificant survey on an annual basis.
15. Sell promotional space on website.

EDITORIAL

by Thomas C. Way, MA, CPE

Our friend, BCPE founder Dieter Jahns, has been fighting lung cancer. It was diagnosed in August and he quickly went into an aggressive treatment program. After several rounds of treatment, application of his own significant strength and will, the love of his wife Karel and of his family and friends, he is moving into what he calls "hospice mode."

This editorial is a simple solicitation of prayers and good thoughts for Dieter, Karel and their family.

You carry the cure within you.
Everything that comes your way is blessed.
The Creator gives you one more day.
Stand on the neck of Fearful Mind.

Do not wait to open your heart.
Let yourself go into the Mystery.
Sometimes the threads have no weave.
The price of not loving yourself is high.

— Jim Cohn

WANT TO BE EDITOR?

by Thomas C. Way, MA, CPE

After a year or so on the job, and publication of three newsletters, I find that I must resign the position due to the press of retirement activities. This leaves a vacancy. The BCPE is soliciting applications for a new editor for *The Professional Ergonomist* (TPE). It is a volunteer position but the editor is considered to be an ex-officio board member, with travel to BCPE meetings handled in the same manner that it is for directors. The editor has significant latitude and the capable production support of the BCPE office in Bellingham, WA. E-mail communications work well.

TPE is not a tabula rasa. Some patterns have been established. There is usually an article or two on BCPE issues and often something of more general professional interest, like Dieter Jahns' piece in the last issue on ethics. The idea of point-counterpoint, or at least idea-and-response, seems to be working. Smaller board notices like financial reports, roster updates, and event calendars appear in these pages.

It is a good job, not too time consuming, and one that awaits the creative hand of a good professional ergonomist. If interested, write, e-mail or call Kris Alvord in the BCPE office.

NEW AND CONTINUING DIRECTORS – BIOGRAPHICAL NOTES

GARY B. ORR, MSIE, CPE

Gary is an Industrial Engineer/Ergonomist at the Occupational Safety and Health Administration's (OSHA) office of ergonomic support. He has been involved in enforcement, partnerships and education in the area of ergonomics. He is currently the ergonomics standard team leader where his responsibilities include overseeing the development of an ergonomics program standard.

His education concentrated on topics of manual handling, environmental factors in the workplace, occupational safety, and job design. He has a Bachelors of Industrial Engineering (Auburn University) and a Masters degree also in Industrial Engineering (University of Oklahoma).

Gary has over 20 years of experience in the field of ergonomics and spent several years as an Adjunct Professor. He has a broad range of experience in Human Factors Engineering. He has several published papers on developing successful ergonomics programs.

His specialties include improving safety and productivity through the application of ergonomics. In addition, he has been actively involved in applying ergonomics to healthcare and ADA issues.

ROBERT J. SMILLIE, PhD, CPE, BCPE Secretary

Robert J. Smillie is a senior human factors research scientist with the U.S. Navy's Space and Naval Warfare Systems Center in San Diego, California. Shortly after receiving his Ph.D. in human factors/psychology from North Carolina State University in 1977, Bob went to work for the U.S. Navy in San Diego and has been working there for the past 22 years. His research interests include design and development of advanced human computer interface concepts for command and control.

Although covering a broad range, Bob has been responsible for research efforts in visualization of information, innovative interfaces to access information, assessment and application of collaborative technologies to command and control planning, design and development of a computerized aid for satellite communications, test and evaluation of a computerized, portable delivery device for aircraft maintenance information, and workload analysis and assessment of various Navy systems. In 1992, he took a long-term assignment in Washington, DC where he served as an Assistant Director of the Defense Modeling and Simulation Office, planning, designing, and managing comprehensive research programs in modeling and simulation technologies.

Over the years, Bob has been fortunate to be a participant in several specialized study teams. In 1990, he was selected as the Department of Defense representative to the Federal Aviation Administration Scientific Task Planning Group to develop a National Human Factors Plan for aviation research. And, from 1980 to 1982, Bob had the privilege to be a member of the Human Factors Society study team which was responsible for the development of a long range plan in human factors research for the U.S. Nuclear Regulatory Commission.

In addition to being a CPE, Bob is a member of both the Human Factors and Ergonomics Society and the United Kingdom's Ergonomics Society. He has authored over 50 technical reports and publications including two book chapters on information design and performance aids.

FALL 1999 EXAMINATION RESULTS

Based on the results of the examinations held in September and December 1999, the BCPE is pleased to announce the following new certificants.

For CPE/CHFP certification:

Gary A. Beck PhD CPE
Patrick G. Dempsey PhD CPE
Kathleen K. Espinoza MBA CPE
Hongzheng (Cindy) Lu PhD CPE
Walter G. Rostykus MSPH CPE
Paulo J. Santos PhD CHFP

For AEP/AHFP certification:

Cristina Bubb-Lewis PhD AHFP
Eero M. Laansoo BSc AEP
Ameersing Luximon MSc AEP

For CEA certification:

Mark A. Heidebrecht MSE CEA
Eugene A. Kay MS CEA
Kathleen T. Kitts MA CEA

Also, Adrienne L. Drohomirecky MSIE CPE, Charles A. Green PhD CHFP, Wendy R. Key MS CPE, Brian D. Lowe PhD CPE, and Ann B. McGrew MS CPE fulfilled the work experience requirement and achieved a passing score on Parts II and III of the examination to successfully transition from associate to professional certification.

The proctors for these examinations deserve a big thank you for ensuring that exam candidates had a proper exam taking environment, as well as maintaining exam security. They were: Jerry Duncan PhD CPE, Susan Hallbeck PhD CPE, James Stramler Jr. PhD CHFP, John Kelling BA CPE, and Brian Peacock PhD CPE.

Additionally, two certificants qualified for associate certification by waiver of Part I of the examination. They are David W. Abell MS AEP and Rachel R. Michael MSc AEP.

Lastly, Seong-Han Kim MS, Francis D. Pitrella DRS, and Leroy L. Vallerie MS are no longer active certificants.

This brings BCPE certificant totals to: 759 CPE/CHFPs, 66 AEP/AHFPs and 23 CEAs. A complete listing of certificants can be viewed on the website at <http://www.bcpe.org>. This listing is updated every other month to capture address changes and new certificants. Address changes can be reported to BCPE headquarters by phone (360-671-7601), fax (360-671-7681) or e-mail (bcpehq@aol.com).

RESPONSE TO DIETER JAHNS' ARTICLE ON ETHICS

by James C. Miller, PhD, CPE

Your ethics article (*The Professional Ergonomist*, Summer/Fall 1999) struck a chord. I am helping the AF Academy define "educational research," an area that is exempt from the ethics review process provided by an Institutional Review Board (IRB), mandated under 45 CFR 46, 32 CFR 219 and other, agency-specific regulations. Relevant to your article, DoD Directive 3216.2, "Protection of Human Subjects in DoD-Supported Research," excludes from the category of "human subject" those "military or civilian personnel who are qualified to test by assignment to duties that call specifically for such qualifications such as test pilots and test engineers."

When we, as HF engineers and ergonomists are involved in the Test and Evaluation (T&E) process, we may need evaluate the ethics of human use in a T&E project without the benefit of IRB experience. Of course, informal, non-binding IRB advice may be sought, if available. Extrapolating my thoughts about the conduct of exempt educational research projects to the conduct of exempt T&E projects, I must say that being exempt from review should be viewed as a potential danger. In the eyes of bioethicists, it is easy for the ergonomist to violate a subtle ethical practice, and the ergonomist may have no knowledge of expectations in this area. This problem may be dealt with through the education of ergonomists and/or through the use of an IRB to advise them about subtleties in specific projects. I do not advocate formal IRB review of T&E plans; I am simply suggesting informal, non-binding suggestions.

Food for thought.

Current President Valerie Rice presents outgoing Director Ian Noy a token of appreciation for his work on behalf of the BCPE. Ian is now President of the International Ergonomics Association.



Winter 1999/2000

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Executive Administrator: Kris Alvord

Financial/Information Systems Manager: Karel Jahns

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<http://www.bcpe.org>. Inquiries regarding editorial
content, advertising, address changes and
subscriptions may be directed to this address.

CALENDAR OF EVENTS

- | | |
|----------------|--|
| March 13, 2000 | BCPE Exam in Los Angeles CA prior to the Institute of Industrial Engineers' Applied Ergonomics Conference. Postmark deadline for application has already passed. |
| April 10, 2000 | BCPE Exam at various locations throughout the United States and Canada. Postmark deadline for application has already passed. |
| May 5-7, 2000 | BCPE MidYear Meeting in Denver CO |
| May 21, 2000 | BCPE Exam in Orlando FL preceding the American Industrial Hygiene Annual Conference & Exposition. Postmark deadline for application: March 21, 2000 |
| June 7, 2000 | BCPE Exam in San Jose CA at ErgoCon 2000. Postmark deadline for application: April 7, 2000 |
| July 29, 2000 | BCPE Exam in San Diego CA at the joint IEA/HFES 2000 Meeting. Postmark deadline for application: May 29, 2000 |
| October 2000 | BCPE Annual Meeting |