Professional Human Factors and Ergonomics Certification

Frederick Tey (fredericktey@gmail.com)¹, Maggie Graf (maggie.graf@seco.admin.ch)²

¹Human Factors & Ergonomics Society of Singapore 1010 Dover Road, #01-57V, Singapore 139658
²Swiss State Secretariat of Economic Affairs, Department of Labour, Occupational Health Research ABGG, Holzikofenweg 36, Bern

ABSTRACT

Certification gives personal satisfaction about your accomplishments, it helps you to record your learning and growth and it helps to promote professional ethics and the pursuit of excellence. It shows your identification with the profession and that you enjoy the highest regard from your professional peers. The aim of this paper is to rationalize the reasons for getting professional certification, what criteria are needed to get certified and which method of certification are best for each individuals. The International Ergonomics Association (IEA) has endorsed six certification systems. Generally, you should apply for certification in the region where you work. If your local ergonomics society does not have a certification system, the CIEHF and the BCPE may accept your application. Certification can lead to increased financial earnings and it can open the door to new careers, job improvement, and advancement. We urge you to become part of this exciting and growing profession.

Keywords: Human Factors, Ergonomics, Certification, Professional Ergonomists

1. Introduction

Based on the official definition on the International Ergonomics Association (IEA) website, “Ergonomics (human factors) is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance. Practitioners of ergonomics and ergonomists contribute to the design and evaluation of tasks, jobs, products, environments and systems in order to make them compatible with the needs, abilities, and limitations of people”. According to Wendy MacDonald, who was instrumental in the establishment of the IEA Core Competencies for ergonomists, this definition distinguishes the scientific discipline of ergonomics from the professional practice of ergonomics¹. In fact, many academics feel that professional certification is more relevant to practitioners than to researchers, and state that the world needs ergonomics but not ergonomists. However, without a robust system to verify the competencies of individuals, how can we ensure that qualified people are using the large body of scientific knowledge that has been developed?

2. WHY CERTIFY?

Certification is a formal procedure by which an accredited or authorized person or agency assesses and verifies the attributes or status of individuals or organizations, goods or services, procedures or processes, or events or situations, in accordance with established requirements or standards (and attests to it in writing by issuing a certificate)². A professional certification system uses established criteria to test the knowledge, skills and abilities to perform a job. Becoming certified is, therefore, evidence of a minimum level of professional competence and most academically trained professionals (such as medical doctors, accountants, engineers, architects, etc.) have developed certification

1 Private communication, 2015.

2 Business Dictionary (Taken from www.businessdictionary.com/definition/certification.html on 17 April 2017 )
systems. The societies use the certification status to give their members 'the edge' over others who wish to offer services in the field.

Many academics and current practitioners of Human Factors & Ergonomics ask themselves the following question. “My current job does not require professional certification. Why do I need to get myself professionally certified now?” Before answering this question, ask yourself these questions:
• Do you work frequently with the public, or among other professionals who are not scientists and do not know how to tell who is qualified to do your job?
• Does your employer require you to stay current with the latest industry developments?
• Is there a lot of competition in your field of work (e.g., do you need to stand out from the crowd)?
• Are you considering switching jobs and want to make the best impression possible?
• Are you the kind of person who likes to be the best at what you do?
• Do you wish to promote the professional image of ergonomics?
• Do you want to be accepted as an equal by other certified professionals?

If you answered 'yes' to any of the questions above, then consider getting certified today.

Certification gives personal satisfaction about your accomplishments, it helps you to record your learning and growth and it helps to promote professional ethics and the pursuit of excellence. It shows your identification with the profession and that you enjoy the highest regard from your professional peers.

Certification is also useful for employers who often struggle to understand who is the most suitable amongst the people applying for work or contracts. Certification by the national professional society gives them a guarantee of your competence in the field.

3. WHO CAN GET CERTIFIED?

Professional ergonomists have a knowledge of the principles of ergonomics and of the relevant human characteristics in the areas of anatomy, physiology, psychology and social organisation, as well as knowledge of how the physical environment affects people. They must be competent in statistics, experimental design, and in the equipment and methods to investigate, modify or design situations and equipment for ergonomic benefits. For more details of the necessary knowledge, please see the “Core Competency” information on the IEA website. Additionally, certified ergonomists must have shown that they can apply this knowledge to solving real world ergonomics problems. The certification systems assess this by examination, or by submission of case reports and references, or some combination of these. Certification is generally valid for a period of 5 years after which renewed assessment has to take place. This guarantees continuous professional quality both for the ergonomist and their employer or clients.

4. IEA ENDORSED CERTIFICATION SYSTEMS FOR PROFESSIONAL ERGONOMISTS

The International Ergonomics Association (IEA) has endorsed six certification systems (see Table 1). Ergonomists certified at the highest level by these systems have an education in ergonomics at university level that largely covers the IEA core competencies. Additionally they have at least two years of professional experience. The requirements of some certification boards exceed these minimum IEA requirements in terms of experience. They have signed a Code of Conduct that obligates them to observe professional ethics standards.

5. IEA WHICH METHOD OF CERTIFICATION IS RIGHT FOR YOU?

Generally, you should apply for certification in the region where you work. If your local ergonomics society does not have a certification system, the CIEHF and the BCPE (see below) may accept your application. The Human Factors & Ergonomics Society of Australia Inc. (HFESA) certifies ergonomists who work in Australia. Only society members can become certified.
<table>
<thead>
<tr>
<th>Region Covered</th>
<th>Name of Certification Board</th>
<th>Highest Level(s)</th>
<th>Website Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Human Factors and Ergonomics Society of Australia (HFESA)</td>
<td>Certified Professional Ergonomist (CPE)</td>
<td><a href="http://www.ergonomics.org.au">www.ergonomics.org.au</a></td>
</tr>
<tr>
<td>Europe</td>
<td>Centre for Registration of European Ergonomists (CREE)</td>
<td>European Ergonomist (Eur.Erg)</td>
<td><a href="http://www.eurerg.eu">www.eurerg.eu</a></td>
</tr>
<tr>
<td>Japan</td>
<td>Japan Ergonomics Society</td>
<td>Certified Professional Ergonomist (CPE)</td>
<td><a href="http://www.ergonomics.jp">www.ergonomics.jp</a></td>
</tr>
<tr>
<td>New Zealand</td>
<td>Board for Certification of NZ Ergonomists - Human Factors and Ergonomics Society of New Zealand</td>
<td>Certified Professional Member</td>
<td><a href="http://www.ergonomics.org.nz">www.ergonomics.org.nz</a></td>
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<td>United Kingdom</td>
<td>Chartered Institute of Ergonomics &amp; Human Factors (CIEHF)</td>
<td>Chartered Ergonomist and Human Factors Specialist (C.ErgHF)</td>
<td><a href="http://www.ergonomics.org.uk">www.ergonomics.org.uk</a></td>
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<tr>
<td>United States of America</td>
<td>Board of Certification in Professional Ergonomics (BCPE)</td>
<td>Certified Professional Ergonomist (CPE) Certified Human Factors Professional (CHFP) Certified User Experience Professional (CUXP)</td>
<td><a href="http://www.bcpe.org">www.bcpe.org</a></td>
</tr>
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The Centre of Registration for European Ergonomists (CREE) harmonises the certification work of a number of national ergonomics societies within the geographical area of Europe (19 European countries). Each member society is represented on CREE Council whose role is to specify the standard of knowledge and practical experience required to become a European Ergonomist. Only ergonomists who work in Europe are considered for CREE certification. Membership of a national ergonomics society is not required.

The Japan Ergonomics Society (JES) Committee on Certification of Professional Ergonomists certifies applicants in Japan. The governing body of the Committee consists of the chair, vice chair and other executive members selected from CPE members who operate the examination of candidates and other events for certified ergonomists. In June 2007, two new certification levels targeting young practitioners were introduced: The Certified Associate Ergonomics Professional (CAEP), and the Certified Ergonomics Assistant (CEA), designations. Based on their qualifications, applicants should choose the most appropriate type of application. Refer to https://www.ergonomics.jp/cpe/en/e-examination to determine which certification level is most suitable for you.

The Human Factors and Ergonomics Society of New Zealand (HFESNZ) currently has three membership categories: 1) Certified Professional Member for those who in addition to the education and supervised training requirements of Associate Members have also completed two full time years of professional practise, at least one year of which has been in New Zealand, 2) Associate Professional Member for those with at least 3 years of academic formation, at least one year of which is in Human Factors/Ergonomics, and one full time year of supervised practice in Human Factors/Ergonomics. 3) General Member for individuals who have an interest in human factors/ergonomics, including students and early career human factors professionals/ergonomists not yet able to become a Professional Member, or in the process of application for Professional Membership.

The Chartered Institute of Ergonomics & Human Factors (CIEHF) has several levels of recognition that reflect the member’s level of interest, knowledge, skills and experience. If you are applying for Registered membership or Fellowship, you can apply for Chartered status at the same time. It is not necessary to work in the United Kingdom. The system of Royal Charters grants the legal right to professional organisations (institutes)
to protect their professional title within the United Kingdom (refer to www.ergonomics.org.uk/chartership). In 2015 a Royal Charter granted the right to the CIEHF to award the protected status of “Chartered Ergonomist and Human Factors Specialist (C.ErgHF)”.

The Board of Certification in Professional Ergonomics (BCPE) provides professional certification for practitioners of human factors/ergonomics (HFE) in the United States of America. Membership of the Human Factors Society is not necessary. The BCPE is governed by an elected board of leading professionals and is managed by an Executive Director and Executive Administrator. The BCPE certification process has three main components: 1) education, 2) experience and work products and 3) examination.

The process to become certified is similar in most systems. The following diagram shows the system for the BCPE where an exam is part of the process.

5. MOVING AHEAD

South Africa and Brazil have certification systems in place that have not (yet) been endorsed by the IEA. Other countries, such as Malaysia, Chile, Russia and Mexico, are currently considering setting up their own certification systems. The current IEA Board is committed to promoting certification as it sees this as an integral part of the future development of the profession. A panel session is planned for the coming ACED conference in Japan 2017.

Representatives of various member societies of the IEA are currently reviewing the IEA certification system requirements and endorsement system process. The documents describing these processes have been revised by Maggie Graf, chair of the IEA Subcommittee on Certification, following a special session on certification at the last IEA Conference, in Melbourne in 2015. This subcommittee is part of the Standing Technical Committee on Professional Standards and Education, of which Frederick Tey is currently chair.

There will be at least one session on certification at the next IEA Conference in Florence in 2018. One of the key tasks at the present time is to re-examine the educational criteria for certification, such that they adequately reflect the changes in the profession that have taken place over the last 20 years and are in line with the IEA strategy on the future of ergonomics. With the increasing use of robots in the workplace, the take-over of many tasks by information technology and changes in the world of work in terms of working times, places and organisational structures, the call for experts on human factors and ergonomics is expected to increase in the next decades. The profession must be equipped to respond to this demand by guaranteeing the professional standards. Certification has shown itself to achieve this goal in other professions. It establishes a professional identity that benefits both practitioners of the profession and their clients and employers.

Certification can lead to increased financial earnings and it can open the door to new careers, job improvement, and advancement. We urge you to become part of this exciting and growing profession.

Figure 1 BCPE Certification Process for Professional
(Taken from http://www.bcpe.org/how-to-certify/)