

## **Mentoring of professional statisticians under auspices of accredited statistical program: example of Statistical Society of Canada (SSC)**

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An effective professional statistician requires skills beyond formal statistical training. A new practitioner needs to learn how to 1.) integrate formal education in a manner appropriate for the subject matter area(s) of practice, 2.) communicate clearly both verbally and in writing about a project from its inception to completion, 3.) work cohesively with people in other disciplines, 4.) maintain ethical statistical practice, and 5.) participate in effective professional development. An integral part of Statistical Society of Canada (SSC) Accreditation is the SSC Mentorship Program, which seeks to enhance the development of professional statistical practice in Canada through matching and sharing of knowledge and experience between professional statisticians (P.Stat.) and accredited members with less than 6 years practical experience, Associate Statisticians (A.Stat.). All A.Stat. need to be matched with a mentor. The choice of mentor may be determined by the A.Stat.'s hope for personal contact in a geographic region, or advice from a similar subject matter expert, who could interact electronically from a distance. The frequency and type of interactions are determined by the P.Stat. mentor and A.Stat. mentee, with a focus on individual situations. The process should help introduce A.Stat. to their new statistics careers, establish professional development plans and career goals, and accelerate achievement; should be satisfying for P.Stat. with sharing of professional skills and knowledge, enhancement of communication and leadership abilities; should be a benefit for employers helping A.Stat. employees to have greater job satisfaction and accelerate their organizational achievements. Generally, mentors act as older, more experienced friendly advisors who listen and help their mentees in situations facilitating the total adjustment of the mentee to circumstances that they may be unprepared to deal with on their own. The mentee may choose to implement suggestions from the mentor while retaining responsibility for the interface with their employer. The speaker has been the SSC facilitator for mentorship matching of P.Stat. with A.Stat. since the SSC began accrediting A.Stat. in 2006.

**Key Words:** Early career mentoring, statistical practice, professional accreditation program.

### **1. Introduction**

The process of accrediting professional practitioners is becoming a societal norm that spans disciplines, although the specifics for a particular discipline require definition, related to the type of deliverable, recipient of product, and level of assurance expected. Academic statistical training is increasingly recognizing the necessity of exposing students to applied practical problem solving, developing statistical computer skills, and encouraging good verbal and written communication skills. However, early career statisticians still usually experience a gap between their formal training and realities of practice. This transcends areas of statistical application and level of formal training, since the basis for the issues faced arises from the interface between an abstract statistical technical framework and non-technical recipients. It can be bewildering for a new graduate, especially if (s)he is the sole statistician in the immediate work environment.

Mentoring may arise naturally, or be planned, in larger organizations where there is a breadth of statistical experience. The incorporation of mentoring into professional statistical accreditation programs provides an opportunity to proactively ensure that isolated young statisticians may also benefit from applied statistical experience. It is good for the discipline as a whole to promote an interface between academia to integrated practice, to “enhance the development of professional statistical practice in Canada through the sharing of knowledge and experience between designated professional practitioners (P.Stat.) and members entering as A.Stat.”:

(<http://www.ssc.ca/en/accreditation/mentoring-astat-pstat>;  
[http://www.ssc.ca/webfm\\_send/10](http://www.ssc.ca/webfm_send/10)).

From its inception, the Statistical Society of Canada (SSC) Accreditation Program mandated mentoring for the accredited Associate Statisticians (A.Stat.), those with formal statistical training and fewer than 6 years applied practice. Accreditation of A.Stat. was delayed from the beginning of SSC Accreditation in 2004 until 2006 so that there would be a sufficient count of prospective Professional Statisticians (P.Stat.) mentors.

## 2. Methods

SSC Accreditation mentoring was established with formal Guidelines to explain the principles and expectations ([http://www.ssc.ca/webfm\\_send/10](http://www.ssc.ca/webfm_send/10)) for mentors, mentees, and employers with clarification that while the mentor support “will often facilitate the mission of the employing organization, the mentor is focused on facilitating the total adjustment of the mentee to the given circumstances”, which includes being an advisor on professional development that would lead to career progression with submission of a P.Stat. application ([http://www.ssc.ca/en/webfm\\_send/1](http://www.ssc.ca/en/webfm_send/1)).

The geographic distribution and specialization of statisticians in Canada was recognized. This led to the stipulation that “The mentor may work for the same employer, or work in the same application area. An A.Stat recipient in a remote geographic region may choose a relationship with someone relatively nearby geographically, or with someone further away but in the same area of application.”: ([http://www.ssc.ca/en/webfm\\_send/1](http://www.ssc.ca/en/webfm_send/1)). There is a facilitator to assist mentees in decision-making about who they might consider approaching; the approaches are made by the mentee since mentoring involves development of a relationship.

Mentoring is voluntary, with annual declared willingness to mentor with SSC Accreditation renewal forms. “Mentoring involves a partnership between two people, where the mentor (who possesses greater skill, knowledge and experience) works collaboratively with a mentee (who is looking to enhance skills, knowledge and experience) in a mutually beneficial process. While there is by definition, a certain amount of reciprocity, both parties bring different but valid perspectives to the process, both gain from the relationship, and both are equally accountable for success.”: (<http://www.ssc.ca/en/accreditation/mentoring-astat-pstat>;  
[http://www.ssc.ca/webfm\\_send/10](http://www.ssc.ca/webfm_send/10)).

### 3. Results

The author has acted as facilitator since the A.Stat. program began and considers mentoring to be the cornerstone of current service provided by the SSC Accreditation program. Some students have applied to be accredited as they graduate, to provide a transition to their next career phase; this is the ultimate plan for effective mentoring, although it may pose challenges if active email contact is not maintained with the SSC Office. Some P.Stat. have initiated queries about when they might receive a mentee; the facilitator has attempted active promotion of the prospective mentor. Some mentoring match changes have been needed by changing circumstances, usually on the part of the mentee who moves geographically or changes job direction.

### 4. Conclusions

Some disciplines or employers require mentoring. Accreditation programs have an opportunity to provide a discipline-specific service to those who would not otherwise have mentoring, as well as to augment other mentoring with a specific-type of integrated professional service for the crucial early career period. The willingness of P.Stat. to participate as mentor arises from subjective belief that there were early career situations where it would have been helpful to have had such an advisor.

All one-armed trials are subject to lacking objective proof of efficacy. It has been rewarding for the facilitator to hear reports back of both mentors and mentees who assert they consider the program has been tangibly beneficial. The best evidence will be accrued in the future with A.Stat. who progress to P.Stat., and are willing to mentor.

### References

- Mentoring for A.Stat. with P.Stat.: <http://www.ssc.ca/en/accreditation/mentoring-astat-pstat>
- Guidelines for SSC Mentorship Program for Accredited Statisticians (2004)  
[http://www.ssc.ca/webfm\\_send/10](http://www.ssc.ca/webfm_send/10)
- Accreditation of Statisticians by the Statistical Society of Canada (2004)  
[http://www.ssc.ca/en/webfm\\_send/1](http://www.ssc.ca/en/webfm_send/1)