

TAC Educational Achievement Award Nomination

March 2017

STANTEC CONSULTING LTD.

Project Management Boot Camps



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ABSTRACT

Project management is a fundamental part of what Stantec offers in its engineering, design and planning work for the transportation sector, as well as other sectors around the world.

If Stantec's Quality Management System is the brain that analyzes and provides feedback on our performance in project management, our 10-Point Project Management Framework is the heart that keeps it alive and allows it to thrive.

Stantec's Quality Management System was introduced in response to a need for measurable protocols in project management and control across the company. At its core, the Quality Management System includes our 10-Point Project Management (PM) Framework, which guides the development of our projects from start to finish. A key component of the PM Framework is the PM Boot Camp, a full-day in-class session delivered year-round in our offices around the world. The Boot Camps incorporate safety moments, group exercises, and specific examples dealing with real experiences in project management at Stantec. The Boot Camps have been delivered at over 340 sessions in 135 office visits, and train over 700 of our PMs and project support people annually. Since the launch of the Boot Camps, over 3,800 Stantec PMs, leaders and support staff have taken the training, representing over 48,000 person hours of face-to-face learning. Our PMs have consistently rated their satisfaction with the training at 90-92%. The connection of the PM Framework to practical situations, as well as the knowledge and experiences of their peers, confirms the value of the training to our PMs as well as senior leadership.

1. INTRODUCTION AND OVERVIEW

Stantec Consulting Ltd. is a professional services consulting firm. Our company was founded in Edmonton in 1954, and today unites more than 22,000 employees in over 400 locations around the world. We offer professional services in transportation, infrastructure, planning, engineering, architecture, landscape architecture, surveying, environmental sciences, project management, and project economics. We operate under four core values:

- We do what is right
- We put people first
- We are better together
- We are driven to achieve



Figure 1 – Stantec's Core Values

Part of our commitment to do what is right relates to how we carry out our project work. Stantec's Project Management (PM) Framework was first developed in the mid-1980s. Our firm, then known as Stanley Engineering, was in the early stages of bidding for the first of several contracts to manage the extension of the Edmonton LRT. One of our VPs saw the need to introduce project management protocols in order to succeed in a project of this size; it was this readiness to innovate that won us the work and sparked the development of our quality management framework.

Throughout the 1980s and 1990s, we increased our focus on project management, paying particular attention to the development of quality management protocols. Our first Practice Manual was drafted in response to a coordinated effort that would increase our project management training materials. The manual was supplemented by formal training modules based on existing internal seminars. These training modules eventually became the core modules that we still use today, in addition to specific modules dealing with construction, people skills, and business development.

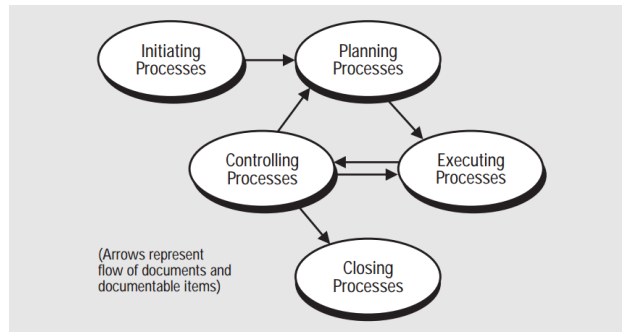


Figure 2 – Project Process Groups (PMI, 2013)

The PM Framework was introduced in the early 2000s, and forms the basis for the management and control of all projects at Stantec. The PM Framework is designed around 10 key points, and can be organized into the five process groups of the Project Management Institute (PMI, 2013): Initiate, Plan, Execute, Monitor & Control, and Close. With the introduction of the PM Framework, we also launched an internal auditing program that is tied to our ISO-9001 quality certification. Our formal training modules continued to grow and, as the company expanded, a distance learning program was initiated, with telephone and webinar deliveries of the online modules. In 2014, we phased out the telephone delivery and launched seven online modules based on the original core modules. The self-paced online modules reflect the evolution of adult learning, and allow us to reach hundreds of our offices around the globe with this core training.

2. DESCRIPTION OF THE ACHIEVEMENT

In 2011, the PM training program at Stantec was enhanced by the launch of our PM Boot Camps, developed by Brian Guthrie. Brian recognized the need for interactive face-to-face sessions that would enrich the Project Managers' (PM) learning experience. He envisioned sessions that would bring our PMs together for one to two days of training and give them a chance to discuss the practical application of our PM Framework with their peers. Stantec's Project Management Boot Camps have been delivered in over 340 sessions in our offices around the world. The training sessions take place at approximately 25 office visits each year, and around 700 of our PMs, leaders and support people participate annually. Several of our larger offices are visited multiple times a year, attracting PMs from all over the region.

60	25	700
Training Sessions	Offices Visited	People Trained

Figure 3 – Annual Participation Statistics

340	135	3,800
Training Sessions	Offices Visited	People Trained

Figure 4 – Total Participation Statistics (over 5½ years)

PMs of all seniorities and disciplines participate in these sessions, as do executives, project support staff, finance teams, marketing staff and HR reps. The format emphasizes applied learning, local case studies, and interactive exercises. Sessions are led by an experienced Stantec facilitator, with the input of local leaders and PMs.

A typical Boot Camp begins with a safety moment. Stantec strives to stimulate a workplace culture that emphasizes health and safety; as such, it is a common practice to begin all meetings with a story or learning point concerning health and safety. Our facilitators also use this opportunity to familiarize participants with the safety protocols for the building where the training is being delivered. The facilitator will then introduce themselves, as well as the topic at hand, and provide a general overview of Stantec’s approach to project management. The facilitator then proceeds to break down each point of the PM Framework, with a focus of the *intent* (or the *why?*) of each point, and how the points help us to achieve better results on each project.

The training also incorporates group exercises, designed to illustrate specific scenarios and problems. Our PMs work on these problems in groups, bringing together project experience from a wide variety of backgrounds and disciplines, including transportation, urban planning, buildings and infrastructure design. Our facilitators find that some of the best discussions in the session come out of these exercises. It is also a common practice to have local PMs share a small story or mini-case study from a local PM. These impromptu stories provide valuable context to the principles taught in our PM

Framework. The material is also populated with several pop-quiz questions that prompt our participants to consider what they just learned and apply that knowledge. The course material is only one part of what makes our PM Boot Camps so valuable to the company; the other half of the equation is the diversity in experience that our PMs bring into the room, as well as the combined years of experience of our PMs.

3. CONTRIBUTION MADE TO EDUCATION/TRAINING

Before 2011, the PM training program did what it was designed to do: it allowed Stantec to show that its Project Managers (PM) were receiving training on the PM Framework. With the introduction of the PM Boot Camps, Brian Guthrie completely revamped the PM training program to offer an enriched environment where the adult learner could thrive.



Figure 5 – Calgary Boot Camp Delivery

Adult learning, also known as andragogy, has a history of over 100 years. Alexander Kapp first used the term in 1833 to describe the educational theory of Plato. However, “andragogy” is often associated with Malcolm S. Knowles; he popularized the term in the United States in 1970, in his book *The Modern Practice of Adult Education: Andragogy Versus Pedagogy* (Davenport & Davenport, 1985).

Over the years, andragogy has been widely debated, discussed, and criticized. To quote Knowles, Holton III, and Swanson (2011), andragogy is not a theory or model, “it is a set of core adult learning principles that apply to all adult learning situations”. In their book *The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development*, Knowles, Holton III, and Swanson state that andragogy is based on the following six key principles (2011):

1. The adult learner must need to know the subject matter
2. The adult learner is autonomous and self-directed (self-concept)
3. The adult learner has significant and varied experience
4. The adult learner is ready to learn
5. The adult learner is oriented towards learning
6. The adult learner is motivated to learn

Now that PM Boot Camps are centered on the adult learner, they follow these six key principles of andragogy. Stantec can not only show that its PMs are being trained on the PM Framework: it can also demonstrate that this new training format has vastly improved the learning experience for the participants.

Over 3,800 project managers, leaders and support staff across Stantec have been trained in the last 5½ years using the PM Boot Camps. This represents 48,000 person hours of learning in a face-to-face environment, in part based on real cases and experiences of the participants. Participant satisfaction scores are consistently in the order of 90-94%.

48,000	90-94%
Hours of Learning	Satisfaction Ratings

Figure 6 – Delivery Statistics

The content addresses Stantec’s core project management practices, organized around the 10-point PM Framework. Subjects covered in the training include: risk management, go / no-go decisions, proposal preparation, contract do’s and don’ts, project plans, work breakdown structures, scheduling, health and safety, budgeting and financial monitoring, earned value analysis, invoicing and collections, scope of services changes, managing client expectations, negotiations, quality assurance and control, project closing, team building and motivation, communications, and leadership skills.

4. BENEFITS/PAYOFF

As a result of these Project Management Boot Camps, our Project Managers (PMs) are better equipped to provide quality in all our services—including our transportation design work—while following all appropriate codes, standards, financial constraints, and ethical guidelines. Because of our increased focus in the last 10-20 years on project management protocols and the development of our quality management framework, our projects are delivered to our clients on schedule, on budget, and within scope. Risks are reduced, not only for Stantec but also for our clients. Meanwhile, we are nurturing an internal network of excellent PMs, who will be able to manage larger and more complex projects in future.

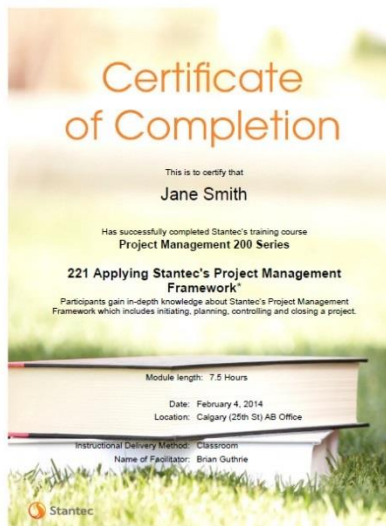


Figure 7 – Boot Camp Certificate of Completion

The PM Boot Camps also serve as a microcosm of project management at Stantec as a whole. Senior Leadership can get a sense of current and future issues from the topics raised during sessions, as well as the post-training evaluation comments.

5. VALUE TO THE CANADIAN TRANSPORTATION COMMUNITY

Our Project Managers (PMs) live in the communities where they work, and every Stantec employee has a personal interest in improving the lives of their neighbours with safe, sustainable design. Every PM who participates in a Stantec PM Boot Camp is a community member who cares deeply about the lives they affect with their work. The PMs in our Transportation sector know that the transit systems, roads, terminals and bridges they design today will carry their friends and family to work, school, and play. The ultimate value of Stantec's PM Boot Camps to the Canadian transportation community is improved project quality and design for transportation systems across Canada, including our traffic systems, roads, bridges, transit systems and airports.



Figure 8
CFB Goose Bay, Vulcan Road Extension

6. SUMMARY

Stantec seeks to do what is right in all our work. Our Project Management (PM) Framework was instituted in light of this goal, and the PM Boot Camps were created to provide enhanced face-to-face training on the PM Framework. The PM Boot Camps have been met with overwhelming success with our PMs; they value the practical application of our project management principles, as well as the opportunity to share their experience with their fellow PMs. Our executive leadership is fully supportive of the PM Boot Camps, and is driving the expansion of the program over the coming years. Our PMs, including those in the Transportation sector, will continue to conduct themselves in the highest professional manner, and the reinforcement of our guiding principles through the PM Boot Camps will encourage success in our projects for years to come.

7. REFERENCES

- Project Management Institute (2013). A Guide to the Project Management Body of Knowledge (PMBOK Guide). Fifth edition, pp 28.
- Davenport, J., & Davenport, D.A. (1985). A Chronology and Analysis of the Andragogy Debate. *Adult Education Quarterly*. Volume 35(3), pp 152-159.
- Knowles, M.S., Holton III, E.F., & Swanson, R.A. (2011). *The adult learner: The definitive classic in adult education and human resource development*.