

## **A Hands-On Approach to Solving Problems Helps a Distance Learner Spring from Technical Work into Engineering Management**

Donald W. Mitchell

When Gundolf Schmidt was born in 1969, his parents and older brother lived with his maternal grandmother in Germany. Until Mr. Schmidt was six that family closeness continued: His father was busy building a home in his nearby hometown, and that's a slow process . . . but a rewarding one. Emulating this parental example, Mr. Schmidt also built his own home after he was grown. Naturally, he got a fair amount of advice and help from his family.

That family tradition of hands-on interest in how things work has been the basis for a very successful technical career that recently led to a management position. He now serves as the engineering manager at a big Tier1 automotive supplier for a team of 31 located in Germany, the Czech Republic, and India. Throughout his explorations of learning and building, he has been blessed by having a beautiful wife who is very patient with his projects and hunger for knowledge.

This career success wasn't completely planned. To some extent, it just happened.

After high school, Mr. Schmidt developed an interest in electronics and computers. To learn more, he enrolled in a school to prepare for work as an Informationselektroniker (which is similar to an electronic technician). Upon finishing the program, he had planned to attend the technological university. Opportunity intervened when his boss offered Mr. Schmidt an attractive job in the electronic design department of the company.

After two years, it was time for service in the German army's signal corps where Mr. Schmidt learned a lot about communications technology. When he left the army, his employer was experiencing financial difficulties.

As a result, Mr. Schmidt took a job as a service technician for medical systems at another company. After a while, he was promoted to representative service manager. Although he was doing well, the job was wearing due to heavy travel across Germany.

Mr. Schmidt next decided he wanted to try his hand in the software environment and joined a small software systems house that was active in producing automotive applications. The company's founder, Dr. Sammel, gave Mr. Schmidt the chance to work as a software engineer without formal qualifications.

Over the five years he was with the company, Mr. Schmidt took many courses to build his effectiveness and became quite knowledgeable about software development, programming languages, and quality assurance in software projects. He became a SPICE (ISO15504, Software **P**rocess **I**mprovement and **C**apability **d**Etermination) assessor and an ISO 9000 internal auditor (European organization for quality -- Quality Management Technician). He also passed several training sessions in the CMM/CMMI (Capability **M**aturity **M**odel / **I**ntegration) model. This education involved eight semesters of distance study while he was working that provided the equivalent of a Bachelor of Science degree.

In 2003, Mr. Schmidt joined Visteon, the former auto parts subsidiary of the Ford Motor Company. He was the software validation leader for a big automotive multimedia project developing **D**igital **A**udio **B**roadcast tuners for several car manufactures. In this role, he spent most of his time performing the validation process, analysis of errors, defect management and writing of software tools for automated testing, and in customer meetings.

In November 2004, Mr. Schmidt finished an important training course and qualified as an **I**nternational **S**oftware **T**esting **Q**ualifications **B**oard certified tester (Foundation level). During recent years, he used his spare time to further improve his knowledge by learning some new software-languages e.g. C, C++, Java and Visual Basic and reading books about different bus-systems (e.g. CAN-BUS and so on) which are used in the automotive environment. For him, continuous improvement and learning new technologies are key factors in daily work.

Mr. Schmidt's next foray into distance learning came in 2005 when he began a Master of Science program at Rushmore University. His goal for this education was to prepare for becoming a manager in the company. He found teaching people to be very interesting and was interested in how he could help his software group to improve its processes.

He selected Rushmore at this point in his career development because it offered distance learning, enabled him to study parallel to his daily work, and gave him the chance to earn his Master of Science degree in an acceptable amount of time. Another advantage was being able to take 12 credits in non-science courses so he could learn more about management practices while improving his English language skills. Rushmore also allowed him the freedom to take the specific courses of his own choice.

While at Rushmore, Mr. Schmidt was able to explore complex issues related to his work. For example, his American company developed software for European companies. As a result, both the CMMI and SPICE assessment models were of interest. For one course, Mr. Schmidt mapped how CMMI translates into a SPICE perspective to help his company better understand its maturity and to save money. The result was a tool that helped improve his department's processes. In another course, Mr. Schmidt described powerful ways of performing software testing to be sure the new systems operate as intended. He further explored how quality staffs and software development teams can cooperate in more effective ways.

Rushmore professors also remember receiving frequent photographs from Mr. Schmidt showing progress reports while building his lovely new backyard pond as he worked on these tough courses. Obviously, the desire to build and learn is never ending for Mr. Schmidt.

Pushed by his professors, the technical work he accomplished exceeded Mr. Schmidt's expectations. Through intensive work with Rushmore's editing staff, Mr. Schmidt also felt that his English skills improved.

How did he feel about this distance learning experience?

"I feel proud and satisfied to have completed my M.Sc. while concurrently doing my job and building my house. I've learnt many valuable reading and writing techniques and also usable skills in the different environments based on my self-crafted course structure.

"The Rushmore program has provided me with what I expected: practical online learning, flexibility in terms of time, choice of courses and advisors, convenient payment options, visible progress, academic support and one-to-one mentoring.

“Maybe in the future I will start my PhD....”

Before graduating in 2006, Mr. Schmidt joined TRW in 2005 where he gained the position he now enjoys leading a global team of 31 as an engineering manager.

As he continues to learn and build, it's clear that Mr. Schmidt's best days are ahead of him.

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Donald W. Mitchell is a professor at Rushmore University. For more information about ways to engage in fruitful lifelong learning at Rushmore to increase your effectiveness, visit

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