

4-14-2011

Experiential Education and the Work Environment Abroad: Student Work Abroad Program

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Goudreau, Mark; Zwolenski, Paul; and Duchala, Frank, "Experiential Education and the Work Environment Abroad: Student Work Abroad Program" (2011). *Department of Management Faculty Publications and Research*. Paper 1.
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**Experiential Education and the Work Environment Abroad:
Student Work Abroad Program
Johnson & Wales University
College of Business**

**Mark Goudreau
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April 14, 2011

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Evolution of a Successful Experiential Education Program Including Student Reflections

I. Current Research about Experiential Education

Experiential Learning and the Summer Work Abroad Program (SWAP): An effective collaboration for learning inside and outside the classroom.

Abstract

Johnson & Wales University College of Business provides students with curricula that incorporate both industry experience and classroom learning. One example of this complementary approach, known as the SWAP program, is predicated on the idea that students who participate in experiential learning activities develop an increased knowledge and understanding of organizational function, professional networking, management and leadership responsibilities, organizational and professional performance expectations and initiatives, and the ability to examine and analyze classroom learning in a real, not simulated, business environment.

Introduction

Experiential learning is a term that refers to a number of concepts for providing students with the opportunity to experience and test classroom learning in a work-based environment. Thomas Groenewald (2004) identifies a variety of terms to describe experiential learning to include apprenticeships, intern and externships, work-study, field-based and on-the-job learning, and cooperative education. In the broadest sense, experiential learning can be defined as “learning activities outside of the traditional classroom environment, with objectives which are planned and articulated to the experience (McElhaney, 1998)”. Experiential education, or learning by doing, as a method for creating knowledge and fostering student development, has a long history. John Dewey, perhaps the most famous proponent of this educational methodology, paved the way for research in experiential learning in his seminal work “Experience in Education published in 1938. Although his work focused on curriculum theory and not experiential education per say, the text influenced future research into experiential models and created a host of advocates for this learning theory. Dewey wrote that “education is life and that what students learn and the way they learn it should be rooted in society and its social experiences” *Teaching Sociology*, Vol.25, 1997 (July:219-226). Dewey made a distinction between primary and secondary experience, the former focusing on interaction between the physical and social environments, the latter emphasizing reflection on the environment and its things.

The benefits of experiential learning are well documented and include 1) improved student self confidence, self-concept, and improved social skills (Gillan, Davie, & Beissel, 1984); 2) increased practical knowledge and skills (Williams, Sternberg, Rashotte & Wagner, 1993) and 3) enhanced employment opportunities (Clark, 1994); Sharma, Manuel & Rowe, 1995). Providing work related experiences to students helps them attain work related skills that supplement their theoretical and conceptual learning. (King, 1994). Fletcher, (1989) identifies three groups of learning outcomes that result from student participation in an experiential learning program. The three outcomes personal development, career development, and academic development become

receptacles for research literature and review. Parks (2003) offers an additional category, professional and work skills development, to enhance the student related outcomes of experiential learning. A great deal of experiential learning literature focuses on the claim that experientially based learning assignments prepare students for the workplace (Nasr (2004). This type of learning program also allows the student to apply classroom based learning to real business based issues and problems and helps them draw conclusions pertinent to the relevancy, affect, and effect of this learning. Marini and Tillman (1998) suggest that students engaged in experiential learning are able to enhance specific skills required by today's employers, such as critical thinking, teamwork, problem solving, communication, and decision making.

Experiential learning is considered to be a valuable tool for transforming curriculum into an instrument of personal development (Weiland, 1981). Learning that helps students make some sense of life and themselves while enhancing knowledge creation and skill development is a valuable experience (Chickering, 1981), Learning that affects judgment, feelings, knowledge, and skills proves to be life lasting and life changing.

Roger Schank believes that curriculum should tell a story. Integrating a student's career goals with their pre and post academic and work experiences helps them develop a life story that teems with knowledge development, application, reflection, and appreciation (Schank, 2002). Shank's belief dovetails nicely with Jeff Cobb's idea that experiential learning is a process of making meaning from direct experience.

Experiential learning is a distinct learning model that blends traditional classroom learning with industry-based application. As Rogers explains, "learning takes to forms, cognitive (meaningless) and experiential (significant)" The former corresponds to academic knowledge and pursuit, the latter refers to the application of knowledge to address real-time learning issues (Rogers & Frieberg, 1994). Learning that affects a students thinking, feelings and actions moves the student from a received knower (students who simply takes in data and information and relies on the instructor to be the sole judge of content) to a committed knower (students who value independent, critical, and creative thinking and learn how to correct their own thinking) (Bain, 004).

If learning is truly a lifelong event, then experiential learning will offer the student the opportunity to master the art of transforming information and experiences into knowledge, skill, behaviors and attitudes critical to both personal and professional performance.

II. Summer Work Abroad Program at Johnson & Wales University

A. Johnson & Wales University and Experiential Education

Johnson & Wales University is recognized as a leader in both experiential education and career services. Embodied within the University's Focus 2011 and Mission and Vision Statement, the University differentiates itself from other colleges and universities by providing students with not just curriculum, but skills, experiences and networking opportunities in their field of study ("Hands on learning," 2011).

To this end, the University provides a stimulating environment, rigorous curriculum and industry relevant resources that support the values of experiential education and facilitate student knowledge, growth, development and career opportunities both domestically and internationally. Evidence of this can be found in the University's Core Values Statement ("Mission & values," 2011):

Johnson & Wales University Core Values

Johnson & Wales University is:

- **Student Centered**
We are strongly student centered, stressing personal development as well as career management skills.
- **Experientially Based**
We integrate hands-on learning with a career-focused curriculum, to enable our students to gain real-world experience.
- **Industry Relevant**
We are industry relevant, focusing both on the needs of our students and the needs of our students' future employers.
- **Employment Focused**
Our business is developing employment-ready, motivated graduates for world-class employers.
- **Globally Oriented**
We respond to the increasingly global nature of business by fostering multiculturalism and providing an international educational experience.

Consistent with experiential education research, Johnson & Wales University recognizes that theoretical and conceptual learning (King 1994) must accompany the experience. The University has developed a curriculum which will provide a foundation for a successful experience within the SWAP Program.

B. Operations Management Curriculum at Johnson & Wales University

In support of the University Mission and Vision, the College of Business (COB) and Department of Management (DOM) have developed curricula and practical experiences to enrich the student experience. The Operations Management Curriculum provides a comprehensive model detailing a blend of traditional and experiential learning opportunities.

1. Traditional

Johnson & Wales University provides a traditional Operations Management (OM) curriculum within the Management degree programs. Operations courses are required within all Management degrees (BS Management, BS Finance, BS International Business, and BS Entrepreneurship), as well as many other degree programs in the College of Business (COB) and School of Technology. In addition, OM represents a concentration offering for students who elect to expand their knowledge of the Operations Management field for career pursuit.

Course offerings within the OM curriculum are typical to programs at most college and university-level institutions and include:

- MGMT2030 Service and Production Operations Management
- MGMT2040 Purchasing and Supply Chain Management
- MGMT3030 Managerial Technology
- MGMT3040 Process and Quality Management
- MGMT4001 Process Planning and Control
- MGMT4050 Operations Management Strategy

To receive a Concentration, students must select three Operations-related courses beyond those required for their degree. Additional options for students electing an OM Concentration include:

- ECON3030 Managerial Economics
- IBUS3050 Export Procedures and Practices
- PRMG2010 Introduction to Project Management
- PRMG3010 Advanced Project Management

The Finance program also added a Finance Operations track as part of their new (AY 2010-11) curriculum redesign.

2. Experiential

The Department of Management Operations Management curriculum offers several experiential opportunities that facilitate the COB's and University's Experiential Education and Career Services goals.

These offerings include:

- Summer Work Abroad Program (SWAP)
- Direct Work Experiences (DWEs)
- Internships

Operations and Finance Center at Johnson & Wales University Providence
Campus (PVD)
Guest lecturers
Plant/site visits
Partnership with professional organizations (e.g. APICS)

The premier experiential offering within the OM curriculum is the Summer Work Abroad Program (SWAP), and will constitute the major focus of the remainder of this document.

C. SWAP and Johnson & Wales University/COB/DOM

The University and COB offer several study abroad options, one of which is the Summer Work Abroad Program (SWAP). At its advent, the SWAP was a variation of the successful Summer Term Abroad (STA) model, in which students were immersed in intensive real world work experiences. This represents an evolution of the academic case study driven model inherent in the STA.

D. History and Evolution of SWAP

The SWAP program was the creation of Dr. David Mitchell working in conjunction with a former PhD research partner, Dr. Patricia Tod, Operations Director at Textron Inc. Dr. Mitchell was seeking an alternative, meaningful international education experience. In consultation with Dr. Tod, the below-described concept was developed and instituted at Johnson & Wales University by Dr. Mitchell.

In the late-1990's many industrial companies were seeking to formalize and promote implementation and practical application of continuous improvement (a.k.a. kaizen) philosophy and ideals. While the ideal of doing work more efficiently (Textron's continuous improvement mantra was "*better, faster, cheaper*"), was largely accepted by personnel and management, conveying this concept to the production floor on a consistent basis was a separate challenge.

One popular method for doing this was a Kaizen Blitz. This is a process where a team of employees is brought together in "an applied strategy, based on quality principles that can create rapid change, improved quality, and increased productivity in timeframes of ... days instead of months and years" ("Kaizen Blitz: Rapid Learning to Facilitate Immediate Organizational Improvement," 2000). Dr. Mitchell's concept was to integrate Johnson & Wales University students as consultants within the cross functional Blitz teams.

In 1999, Dr. Mitchell brought the first team of ten students to two European divisions of Textron that were employing the Kaizen Blitz model. In the first years, much effort went into developing the right model for the program. It became clear that for the program to be successful, students had to work effectively as a team. In order to have the opportunity to build individual students into a cohesive team, Dr. Mitchell adopted the use of a seminar course in the spring term to institute a continuous improvement/team building model, where students also develop project and process management skills. This seminar brings in a variety of skills development while also serving the community

through fundraising efforts. The ultimate model that evolved was one of an eleven week spring seminar, followed by a week of intensive project management/development skills-building in Europe (historically in Dublin) and a weeklong Kaizen Blitz program at the host company.

This model proved successful for both Johnson & Wales University and Textron's Fastening Systems division by providing valuable resources to both Johnson & Wales University and the company. Students were invited back on an annual basis to participate and contribute to the continuous improvement efforts.

As the SWAP program was maturing, industry was as well. In the early 2000's, Textron's Kaizen Blitz program brought in elements of newly-popularized Lean Production. The Lean concept systematically and relentlessly drives *waste* out of the production process. Waste typically defined as coming from seven sources (TIMWOOD, in Textron's parlance): Transportation, Inventory, Motion, Waiting, Overproduction, Overprocessing, and Defects. Textron's Lean Blitzes were engineered to attack and drive out these sources of waste. It is notable that as industry matured and adapted their continuous improvement models, the SWAP program did as well.

Textron (and the students) made another major step in evolving this Lean Kaizen Blitz program by overlaying a Corporate-wide Six Sigma philosophy and methodology in the mid-2000's. The Six Sigma concept was developed by Motorola employees in mid-1980's, and was later popularized by Jack Welch's adoption and advocacy of the program and philosophy and implementing it within General Electric (GE) throughout the 1990's. ("Integrating Six Sigma Concepts in an MBA Quality Management Class," 2008 and "Teaching Six Sigma Concepts in a Business School Curriculum," 2006) Six Sigma is largely credited with adding rigor and discipline to continuous improvement models in that highly trained Sigma teams are placed in the organization and a structured methodology (the DMAIC process [see Appendix]) is utilized to organize and direct improvement efforts. In observing GE's record of success, many major industrial companies, including Textron, introduced Six Sigma processes into their organizations.

Consistent with this model, Textron Fastening Systems in England began to deliver training to Johnson & Wales University students in Six Sigma Green Belt [Appendix] techniques, thereby enhancing and focusing the typical Operations Management classroom curriculum.

Due to dedication and follow-through on both Johnson & Wales University and Textron's part, this became a deeply embedded program which ran smoothly for years. The first major hurdle the program needed to overcome was the divestiture of Textron Fastening Systems division of Textron Inc. in 2006. After years of successful experiential education programs at that location, a new partner at Textron was needed.

While a new beginning at a new Textron division seemed intimidating after so many years of successful interaction at Textron Fastening Systems, the SWAP program showed tremendous resilience in the face of these changes. The SWAP team moved to another industry and another division of Textron, David Brown Textron, a manufacturer of custom transmissions, gearboxes and drives. The successful transfer to another division is largely attributable to the fact that the program was well-institutionalized at Johnson & Wales University, yet flexible enough to accommodate a variety of industries,

applications and locations. Further credit belongs with Textron, in having a consistent Six Sigma platform across their corporation, and recognizing the value that the SWAP adds to their organization.

After two successful years at David Brown, the SWAP program was further enhanced due to the involvement of Michelle Johnson, Executive Director of Textron Corporate Six Sigma. Historically, the SWAP Program communicated directly with Textron's divisions in Europe. Ms. Johnson recognized the value of the SWAP at the Corporate level, and welcomed Johnson & Wales University's students to more in-depth training and interaction during the spring seminar at Textron's Global Headquarters in Providence, RI. Students' experiential education experience was thus enhanced by interaction with corporate trainers in the University's home city. This additionally opened up the SWAP to a network of multiple division locations worldwide.

In consultation with Ms. Johnson, it was decided that the SWAP team should go to Kautex Division of Textron in Wissen, Germany in 2008. Ms. Johnson determined that this Division was among the most mature in the Six Sigma process, and student experience would thus be enhanced. The Kautex employee team was also enthusiastic to further hone their Lean-Six Sigma training and English language skills by working with Johnson & Wales University students, while at the same time improving business processes at this division. Again, the SWAP program proved its resilience and ability to adapt to new industries (in this instance, blow-molded automotive components) including differences in primary languages and cultures.

The SWAP Program faced a new and major challenge in its eleventh year. As a major international industrial company with holdings in automotive, real estate, aerospace and defense, financial services and commercial products, Textron, like most global industries was impacted by the worldwide economic recession in 2008-09. While still valuing the SWAP program, it became clear that Textron could not support SWAP in 2009. Ms. Johnson opened her network, and introduced the SWAP leadership to Hasbro Inc. Hasbro, headquartered in Pawtucket, RI was not only a geographical fit (both domestically and internationally), but also employed Lean-Six Sigma techniques globally.

Hasbro in Waterford, Ireland welcomed the SWAP program, creating a seamless transition to a new corporation. In the initial year, Hasbro introduced Johnson & Wales University students to their model of Lean Six Sigma, with hands on demonstrations of their production processes and recent project implementations. Additional dividends for the program were also found in 2009. The University was forging a new partnership with the Galway Mayo Institute of Technology. The SWAP team visited the institute and shared their facility and resources to conduct research on the program elements (Lean, Six Sigma, etc.) and immerse themselves in international business and cultural studies. The students conducted themselves as ambassadors of Johnson & Wales University as the University and Galway Mayo Institute forged this new partnership.

Having the groundwork laid in 2009, the SWAP 2010 team was able to expand on this experience, and was invited to visit the East Longmeadow, MA division of Hasbro. There the SWAP students were given a day-long introduction to the corporation, its products, and production processes and briefed on Hasbro's "Lean Sigma" program. This provided an excellent foundation for the subsequent trip to Hasbro in Waterford

Ireland. The 2010 SWAP Team spent a week in Galway, hosted by The Galway Mayo Institute and conducted further research on kaizen topics, cultural studies and plant visits. The 2010 SWAP Team then participated in a week-long “Lean Sigma” Kaizen Blitz at Hasbro’s Waterford, Ireland location. This team was able to provide Hasbro with suggested techniques to improve key processes such as energy savings, inventory management, and image transfer and reproduction. As such, this Team represents an ideal example of the experiential learning process, and how such a program enhances student knowledge, maturity, and personal and academic development.

In an effort to document, measure and authenticate student development, Dr. Mitchell requested a series of student reflections at multiple stages during the course of the spring seminar and international experience. These are presented below.

III. Student Development During AY 2009/2010 Personal Post-Reflection

Why engage in reflection? Reflection is a key component and consideration in experiential learning. The intent of reflection is to convert direct and indirect experiences into meaningful learning. It also, according to Rogers (2001), “enables better choices or actions in the future as well as enhance one’s overall effectiveness”. What also must be asked is when to engage in reflection. According to Fiddler and Marienau (2007) students, learners should engage in reflection “any time, all the time”.

During the 2009/2010 academic year, a total of ten students participated in the SWAP program. These students provided post-reflection comments on their experience and discussed the program’s affect on both their academic and personal development. Their comments are summarized into the following categories, academic and personal.

Academic/Experiential: All ten respondents identified teamwork, critical thinking, goal development and attainment, and leadership development as critical learning initiatives in their SWAP experience. This coincides with the body of experiential education research that emphasizes that the “learner must be the one who processes the information from experiential experiences”. Wigginton (1986) writes that the process be an “action-reflection” cycle (Joplin, 1995, p.15, Association for Experiential Education), and that “throughout the experiential learning process, the learner is actively engaged in being creative and constructing meaning” (AEE, n.d.).

Personal/Life-Long: Nine out of the ten students polled recognized personal development outcomes as a result of their participation in the SWAP program. Time management, self-reflection, analysis and reflection, improved interpersonal skills, career focus, and a reprioritization of values, beliefs, attitudes, perspectives and opinions were described in their post-reflective comments. These personal reflections again coincide nicely with several experiential learning concepts. For example, “to the extent that educators emphasize the ‘experience factor in learning’ experiential learning can accelerate the learners’ ability to model, collaborate, and simulate experiential learning outcomes in a more timely and efficient method. A student who has gained proficiency in an experientially developed skill can frequently model that skill to peers” (Steven Byerly, Phi Delta Kappa, May 2001, 697-699).

The implementation of reflection pedagogies to facilitate and enhance learning for students is amply supported by research. Boud, Keogh, and Walker (1985) suggested defined reflection to be the key to learning from experience, while Eyler, Giles, and Scmiede (1996) identified structured reflection as critical to meaningful academic learning. Elaborating on this theme, Daudlin (1996) stated that “ the process of stepping back from an experience to ponder, carefully and persistently, its meaning to the self through the development of inferences, noting that engaging such processes forms the foundation for future decision making and behaviors”. Finally, Strait and Sauer (2004) found that experientially based learning enabled students to both “sharpen the focus of their own instruction and learning as well as deepen their level of inquiry through questioning, making connections, and honoring multiple perspectives”.

The purpose of experiential learning, and the reflection component found within, can be found in several common experiential learning objectives supported by most institutions of higher learning; 1) to assist students in their academic development; 2) assist students in their personal development; 3) assist students in their social development (Wilson 1970). The SWAP program focuses on each of these objectives and through both formal and informal means, attempts to influence the students’ development in each category. A fourth objective is student career advancement opportunities (Clark 1994; Sharma, Manuel & Rowe 1995). This collaborative and collateral learning approach recognizes the educational benefits of each learning method and focuses attention on the developmental nature provided to the student. Nasr (2004) suggests that experiential education benefits the student in both a tangible (formal) and intangible (informal) way and produces a student with a higher aptitude for obtaining the “soft skills” employers in today’s market are seeking.

Emerson supported the experiential learning initiative. In 1844 he wrote in his essay “Experience”: “Do not craze yourself with thinking, but go about your business anywhere. Life is not intellectual or critical but sturdy. Intellectual tasting of life will not supersede muscular activity”. Numerous experiential learning conceptualists have focused on Emerson’s words as justification for experiential learning. Emerson went further and identified what he considered the critical problem of education that being the inability to correlate the relationship of learning to living. Experiential learning is designed to address this concern.

In summary, the results of the SWAP program reflections indicate that the students felt the program was beneficial. They believed the experience benefited them in all indicated categories, academic, personal, and social. Continued success of the program will depend on both the planned objectives prior to the actual experience and the student reflections to ensure the program objectives are met and students’ expectations exceeded.

As a result of the beneficial outcomes of the SWAP program, most attendees are better prepared for additional opportunities in experiential education. A high profile example of this is described below.

IV. Follow-on Opportunities from SWAP – *The Governor’s Five* College of Business, Department of Management, Directed Work Experience

In 2008, Dr. David Mitchell, Dean of the College of Business answered Governor Donald Carcieri’s desire to create a government-university-business partnership to engage in a research project for the State of Rhode Island, Office of Health and Human Services (OHHS). OHHS, along with other State departments, was grappling with the effects of revenue shortfall and operational impacts due in part to recent large scale early employee retirement offerings. The project’s goal was to assist the State in identifying the current levels of services. From this, the establishing of reasonable levels of sustainable future services was to be based on improving efficiencies within the department.

Facilitated by Professors Mark Goudreau and Paul Zwolenski, students from the Textron 2008 Summer Work Abroad Program actively assisted the directors of Health and Human Services. The team of students was dubbed “The Governor’s Five”. The Governor’s Five brought with them Lean management knowledge, concepts and experience gained in Germany during their SWAP program. As the project with the State developed, the *Governor’s Five* gained exposure to government processes and protocol. In doing so they interfaced with a myriad of department personnel while rounding and enhancing their comprehensive understanding of Lean principles in a variety of complex, cross-functional Health and Human Services departments. Areas in which the *Governor’s Five* contributed were general business management practices, operations and human resources.

The final outcome was an optimum tier directed work experience that reflected the application of interagency observations, interviews, surveys, focus group research, data collection and analysis, creation of organization charts, development of inter-agency cause and effect matrixes, value stream mapping, implementation of Lean process tools and utilization of established Six Sigma techniques aimed at assisting the State to meet and facilitate social service demands for the residents of Rhode Island.

V. Conclusions and Observations

Johnson & Wales University provides multiple opportunities for experiential education. One key program which stands out in this regard is the Summer Work Abroad Program. Supported by a solid foundation of management and operations curriculum, students find that they are both prepared for and learn from this hands-on experience. Consistent with experiential education research, this long-running, structured program offers both educational and personal development opportunities which far exceed traditional classroom learning.

Consistent with experiential education research, this long-running structured program offers not only educational and personal development, but also provides career enhancing activities outside of the traditional classroom environment. The SWAP program’s participants not only develop educational and career professionalism skills but they also develop a deep commitment to serving the needs of their campus community and become lifetime contributors to their future communities as well.

APPENDICES

Six Sigma DMAIC Methodology:

- D** Define a problem or improvement opportunity.
- M** Measure process performance.
- A** Analyze the process to determine the root causes of poor performance; determine whether the process can be improved or should be redesigned.
- I** Improve the process by attacking root causes.
- C** Control the improved process to hold the gains.

Six Sigma Professionals:

Six Sigma professionals exist at every level – each with a different role to play. While implementations and roles may vary, here is a basic guide to who does what.

At the **project** level, there are black belts, master black belts, green belts, yellow belts and white belts. These people conduct projects and implement improvements.

- **Black Belt:** Leads problem-solving **projects**. Trains and coaches project teams.
- **Green Belt:** Assists with data collection and analysis for Black Belt **projects**. Leads Green Belt projects or teams.
- **Master Black Belt:** Trains and coaches Black Belts and Green Belts. Functions more at the Six Sigma **program** level by developing key metrics and the strategic direction. Acts as an organization's Six Sigma technologist and internal consultant.
- **Yellow Belt:** Participates as a project team member. Reviews **process** improvements that support the project.
- **White Belt:** Can work on local problem-solving teams that support overall projects, but may not be part of a Six Sigma project team. Understands basic Six Sigma concepts from an awareness perspective.

Source: American Society for Quality (ASQ) Website www.asq.org

Excerpted from Donald W. Benbow and T. M. Kubiak, [*The Certified Six Sigma Black Belt Handbook*](#), ASQ Quality Press, 2005, pages 1-2.

**Summer Work Abroad Program
Location Chronology**

YEAR	LOCATION	FACULTY	COMPANY	PROGRAM
2010	Galway/Kilkenny/Waterford/Dublin	MG/PZ	Hasbro/GMIT	Lean Kaizen Blitz
2009*	Galway/Waterford/Dublin	DM/MG/PZ	Hasbro/GMIT	Lean Demonstration
2008*	Dublin/Cologne/Wissen	DM/MG/PZ	Kautex-Textron	Lean 6 Sigma Kaizen
2007	Dublin- Edinburgh-Huddersfield	DM/MG/MM	David Brown-Textron	Lean 6 Sigma Kaizen
2006*	Dublin-Edinburgh-Huddersfield	DM/MG/SE	David Brown-Textron	Lean 6 Sigma Kaizen
2005	Dublin-London-Warrington	DM/MG/SE	Textron Fastening Systems	Lean 6 Sigma Kaizen
2004	Dublin-London-Warrington	DM/MG/SE	Textron Fastening Systems	Lean Six Sigma
2003	Dublin-London-Warrington	DM/MG	Textron Fastening Systems	Lean Kaizen Blitz
2002	Dublin-London- Wellyn Garden City/Warrington	DM/MG	Textron Fastening Systems	Kaizen Blitz
2001	Dublin-London- Wellyn Garden City/Warrington	DM/MG	Textron Fastening Systems	Kaizen Blitz
2000	London-Wellyn Garden City-Huddersfield	DM	Textron Fastening Systems David Brown Textron	Kaizen Blitz
1999*	London-Wellyn Garden City-Lille France	DM	Textron Fastening Systems	Kaizen Blitz

NOTES:

* Transition year. See full text for details

FACULTY:

DM = Dr. David Mitchell
 MG = Prof Mark Goudreau
 PZ = Prof Paul Zwolenski
 SE= Prof Sally Elshout
 MM = Prof Medhi Moutahir