

Product Development in New Zealand

- Product Development education and the launch of PDMA in New Zealand

Food Product Development courses were set up at Massey University more than 50 years ago by Mary Earle and continue today, with Dr Brian Wilkinson lecturing and running the capstone student projects with industry. Brian has maintained strong links with the food industry and supervises many food technology students in their NPD projects.

Innovation plays a key role in growth through its wealth creating activities, including enhancing the quality of life, financial growth of companies and the betterment of society. Innovation processes and methods have been evolving and the popularity has grown over many years. In New Zealand, this growth has been spurred on by several key individuals who have contributed significantly to NPD education.

Past, present and future

The role of NPD in business has expanded over time, from being within the R&D departments of companies to impacting business strategies and sustainable design. Its focus has expanded from educating not only tertiary engineering and technology students, but much more widely to include other disciplines and age groups. The core skills of creative problem solving and design are now being taught to high school and primary school students. The essentials of NPD thinking include creative problem solving, a systems approach that includes big-data techniques, an empathy for user needs, and a consideration for the environment.

In the past the focus was on improving NPD processes and speed to market. Today the emphasis has shifted to include new methods, more collaborations across disciplines and sustainable practices. Teaching is through supervised project-based courses, which allow students to practice their skills and knowledge in real-life situations thus preparing them better for their future work life.

Mary, Allan, Brian and Aruna have supervised industry-based NPD projects for decades and have interacted with a range of companies across food, consumer goods, agricultural products and healthcare industries. Together these four educators have taught thousands of students, many of whom are now leading innovative and successful companies. Allan and Aruna are among the few people in New Zealand who are professionally Certified by the PDMA.

Empathy and creativity in innovation

Today, with the rapid rise of technologies and the internet, and with the easy availability of information, it has become even more important to teach students how to think and apply what they learn in the classroom. Creative problem-solving and the generation of solutions that fit the context and stakeholder needs are useful across all disciplines and not just in science, technology, engineering, and maths (STEM) subjects.

Creativity and empathy lie at the heart of product innovation. New product or service development must have the human dimension at its core. Engineers and developers must not only consider the use of products as they are intended and designed but consider the consequences of misuse or abuse. Students have been taught to think about the impact of their inventions in the short-term and in the longer term on people, cultural values and society. In today's digital revolution, some of the giant technology companies have made connecting to people very easy and rapid. Along with this fast-paced growth comes the danger of the same technologies being used for malicious purposes. Of course innovators cannot be expected to think of all the scenarios of product usage but should address any product-related issues that may arise when they hear about them. Hence empathy, integrity, ethics and responsibility are critical when new technologies, products and services are created. Innovators must think beyond improving efficiency and profits alone. They should consider the human impact of what they create.

The future promises growth in artificial intelligence and robotics, and such hi-tech computer applications; however, creative thinking and empathy will still be the domain of humans.

To get more involved with Product Development in New Zealand, see www.pdma-nz.org.
Interested in PDMA's 2019 Annual Conference in Orlando? Check out www.pdma.org.

New Product Development Pioneers

Mary Earle

Emerita Professor Mary Earle, or Dr Mary as all her students knew her, pioneered New Product Development (NPD) education in New Zealand and overseas. She joined the Faculty of Food Technology at Massey University in 1965 and introduced NPD courses into the food technology degree, setting up the first four-year degree in Product Development that covered all industries in New Zealand. She also helped to introduce food technology and product development degrees at five universities in Thailand.

She has been a role model for many students and is an Honorary Fellow of NZIFST and an Honorary Fellow in the Institute of Professional Engineers of New Zealand (IPENZ, now called Engineering New Zealand (ENZ)). For her numerous achievements she was recognised as an Officer of the Order of the British Empire in 1993.

Mary and her husband, Richard have shown tremendous generosity over the years and their goodwill continues to spread and benefit many students. The Earle scholarships offer students the opportunities to pursue a Masters and/or PhD research in NPD and Biotechnology, and to travel overseas for conferences. In 2018, she and Dick graduated Doctor of Science (Honoris Causa) at Massey University.



Dr Mary Earle in 1982. “New product development is essentially about creativity and ideas, but commercially, these have to be implemented through an organisation.”

Allan Anderson

Emeritus Prof Allan Anderson is a well-respected and accomplished Product Development educator. After experience in industry and teaching at Massey University, he became chief executive of the NZ Dairy Research Institute (now Fonterra Dairy Research Centre) before he joined Massey University to teach NPD. Allan shared his expertise in project and change management, and led the degree in Product Development engineering. He now heads the Product Development and Management Association (PDMA), USA, the first President from outside the US. (www.pdma.org).

PDMA is a global non-profit professional body that facilitates the dissemination of knowledge and resources in NPD. Its membership includes NPD practitioners, product managers, academics and service providers.

Allan has been instrumental in expanding PDMA's Certification into the Chinese market, where the uptake has been phenomenal. He is part of the Corporate Innovation awards committee, and continues to lead and grow PDMA's activities worldwide.



Emeritus Professor Allan Anderson “Successful and sustained NPD does not come easily. It requires a well-defined strategy and, above all, people who understand what is required for success and who commit to a path of continuous improvement.”

Aruna Shekar

Dr Aruna Shekar signed up with PDMA-USA to start a New Zealand affiliate of PDMA in 2006. Along with Allan Anderson, she set up a Board with representatives from industry to offer New Zealanders opportunities to share local practices and network with like-minded professionals. Aruna currently leads PDMA-NZ as President and is also part of the global Operations committee, as vice president of Asia-Pacific affiliates. These organisations continue to provide access to a range of resources on NPD topics such as strategy, portfolio management, processes, teams and culture, tools and metrics, market research and life cycle management.

Dr Shekar has led the degree major in NPD for many years in Palmerston North and introduced it at Massey University's Albany campus. Her expertise is in consumer research methods and product innovation in humanitarian engineering contexts. She has taught NPD through project-based learning experiences and fostering creative thinking. She has led the new humanitarian engineering courses in conjunction with Engineers Without Borders (EWB), a non-profit social organisation, for four years.

As Innovator-in-Residence (E-centre, Massey University), Aruna is involved in many exciting projects, ranging from improving patient comfort and sleep in hospitals through better products and services; to developing new educational resources for schools to raise the awareness of air quality on health and performance.



Dr Aruna Shekar – “Creative thinking and collaborative problem solving are key to solving many real-world issues.”