

# **TRANSFORMING HEALTHCARE “FROM QUALITY TO VALUE” THROUGH APPLIED LEARNING PEDAGOGY AND TRANSFORMATIONAL LEARNING PHILOSOPHY**

**Dr Genedine Lim, Associate Professor (Health and Social Sciences)  
Singapore Institute of Technology**

**Dr Agnes Xue  
Associate Professor and Programme Director (Design and Specialised Business)  
Singapore Institute of Technology**

## **Significance**

The Singapore healthcare system is undergoing a three pronged major transformation in response to its demographic and epidemiologic changes: (1) *Beyond Healthcare to Health* (to help and support Singaporeans live healthier lives); (2) *Beyond Hospital to Community* (so Singaporeans can receive care in the community and nearer to home); and (3) *Beyond Quality to Value* (to ensure that our healthcare system is effective in providing Singaporeans with good care, at affordable costs and in a sustainable way).

To prepare our students to contribute to these transformations one of the modules nursing students undertake under the Singapore Institute of Technology-University of Glasgow (SIT-UoG) Bachelor of Science with Honours in Nursing is NUR 1006 Health Innovation and Informatics. The aim of this module is to develop the innovation skills of students to transform the Singapore health care system “beyond quality to value”. To meet this aim, a “design thinking” and “lean thinking” innovation approach to business process management and evidence-based practice in health care was taught over 36 hours of face-to-face teaching and 80 hours of applied learning through industrial attachment in healthcare organisations.

## **Pedagogical Perspective and Theoretical Framework**

One of the terminal competencies of the SIT-UOG nursing programme is to develop amongst the graduates the skills of reflection-in-action and reflection-on-action to critically evaluate nursing practices with the purpose of improving their skills and monitoring their

progress over time. To this end, the teaching of NUR 1006 Health Innovation and Informatics is underpinned by the transformative learning theory<sup>1</sup> Strategies that encourage such learning include critical reflection during the students' applied learning during their industrial attachment. In NUR 1006, students undergo real-life experiences and reflection of how nursing care is delivered in actual healthcare settings and how they can be improved to be cost-effective (quality-to-value) through the application of design thinking and lean thinking to "real-world" clinical and operational problems presented by the organisation;

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### **Execution of Method**

Quantitative and qualitative data were collected on the achievement of content learning and transformational learning: (a) achievement marks for the completion of a "quality-to-value" improvement project; and (b) thematic analyses of their reflection essay using Gibbs reflective cycle<sup>2</sup> on their personal experience and how their learning journey from this real-world experience have transformed their thinking and their approach to health care improvement.

### **Appropriate Data**

Assessment of their reflective essays provided information for the evaluation of the transformative learning that took place amongst the students through their applied learning journey. In addition feedback from the students and the partnering health care organisations were collected.

### **Outcome / Results**

Both students and health care organisations gave positive feedback on students' learning. To date, 3 intakes (of a total of 184 students) have already completed the module successfully. In total, these 185 students formed 28 "quality-to-value" improvement

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<sup>1</sup> Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.

<sup>2</sup> Gibbs, G. (1988) *Learning by doing: A guide to teaching and learning methods*. Further Educational Unit, Oxford Polytechnic, Oxford.

groups. Twelve projects were presented at the annual Lean conference (CXO Summit) organized by the Lean Transformation and Innovation Centre (LTIC) of the Singapore Institute of Technology, in collaboration with Lean Global Network and Skills Future Singapore; 2 became semi-finalists at the inaugural Maple Tree Challenge for innovation, one of whom emerged as the inaugural champion (First Place); and 1 won first prize for the hospital's Annual Quality Improvement Project competition and the Merit Award (Risk Management Category) by the Singapore Healthcare Management Conference.