



CASE METHOD 2.0

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ABSTRACT

Evidence based practices and methods for effectively using Mobile Games & Simulations for the transfer of workplace skills.

Playware

Using Mobile Games & Simulation for Adult Learning

Background

Successful companies grow by constantly learning and transferring this learning by leveraging them across diverse geographies and businesses and roles.

The two essential classes of 'learning' that enterprises need to transfer are 'knowledge' and 'practice'. While existing platforms can be equipped to transfer enterprise knowledge, they are not equipped to handle the transfer of practice.

Familiar tools such as Instructor-led-training or On-the-job-training may not support practice transfer (of soft and/or hard skills) fully or are too restrictive, cumbersome and expensive. Often, they can even carry unacceptable elements of risk. Furthermore, they place undue stress or reliance on a small number of key experts, who are usually, also the top performers within the organization and may not themselves be good trainers, coaches or facilitators.

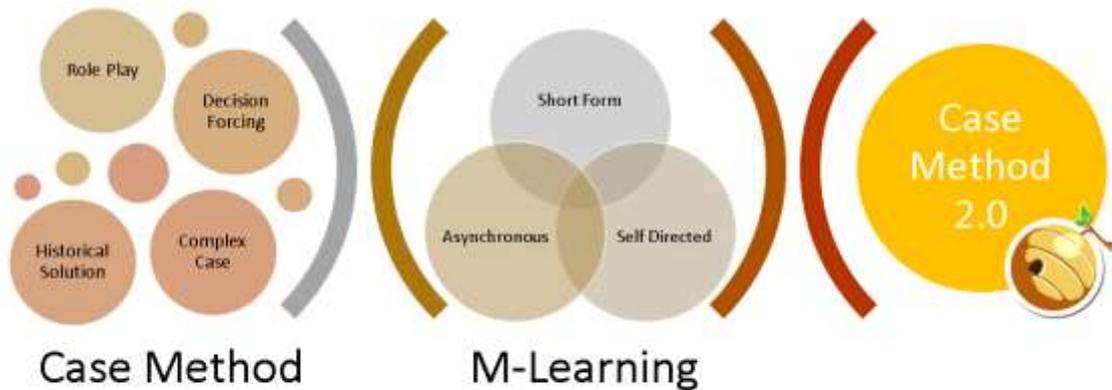
Common criticisms of standard e-learning as a skills acquisition and practice platform are the abstraction of content and concepts, lack of contextual and applied understanding, limitations of choice and dryness of material. These create conditions of inefficient and insufficient practice transfer which in turn may lead to poor performance, accidents, mistakes and loss of profitability.

While new approaches to training such as the use of Games and Simulations can support the acquisition of skills and practice, these have not seen widespread usage as they present high, often unsurmountable, barriers to entry such as; the need for development and adoption of reliable Learning and Development strategies, extremely high cost or untested and unreliable technology, the challenges in logistics and integration across existing business structures and processes and the difficulty of identifying and demonstrating return on investment.





A new way to learn



What is Case Method 2.0?

Case Method 2.0 is an innovative new approach designed specifically for corporate learning and adult lifelong education. The approach blends the decision-forcing case concepts of Case Method of Teaching and Scenario Based Role Play with the affordances of Mobile Learning. It has been developed by Playware Studios a Singaporean Education-Technology company.

Playware has been developing the technology and methodologies underlying this approach since 2007 and has received strategic and funding support from the National Research Foundation, Infocomm Development Authority and the In.Lab at the Institute of Adult Learning.

Case Method 2.0 has been developed by Playware for use of its proprietary 3DHive.mobi platform which has won several International Education-Technology Awards.

Due to this stable technology scaffold Playware was able to focus on deliberate experimentation with specific instructional and practice design for developing this approach and identify the key principles and constructs that work.

With Case Method 2.0 authentic and relevant cases can be developed into one of four levels of interactive practice content. These are: Narrative Driven Games, Interactive Case Studies, Linear Simulations and Context Simulations. Playware has developed specific recommendations for the design and development of each of these levels.

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The core recommendation of Case Method 2.0 are:

1. Base the practice on real-life and current and complex cases to create authentic context for the learner
2. Create a safe environment for the participants to experiment and fail in order to gain experience, insight and practice by solving these cases
3. Design the interactive for mobile-practice by keeping the context specific and the content short
4. Provide minimum instructional scaffolding within the interactive environment
5. Feedback should be treated as outcomes to decision-forcing scenarios and presented for reflection purposes only
6. Focus on Observation, Situation and Model processing and Cognitive skills rather than Psychomotor skills

This approach aims to bring down the barriers of entry that prevent the widespread use of Games and Simulations for corporate and adult education.

Amongst the early adopters of this approach are Jurong Health Services, SIA Group, National Council for Social Services and the Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine.



Why Case Method 2.0?

A well-deployed practice transfer program, such as one employing Case Method 2.0, can help a company accomplish strategic objectives such as drive step-change improvements in performance and also accelerate its development into a learning organization. The program can help in identifying superior capabilities; transferring them across organisational units and provide tools for the systematic monitoring and realisation of results.

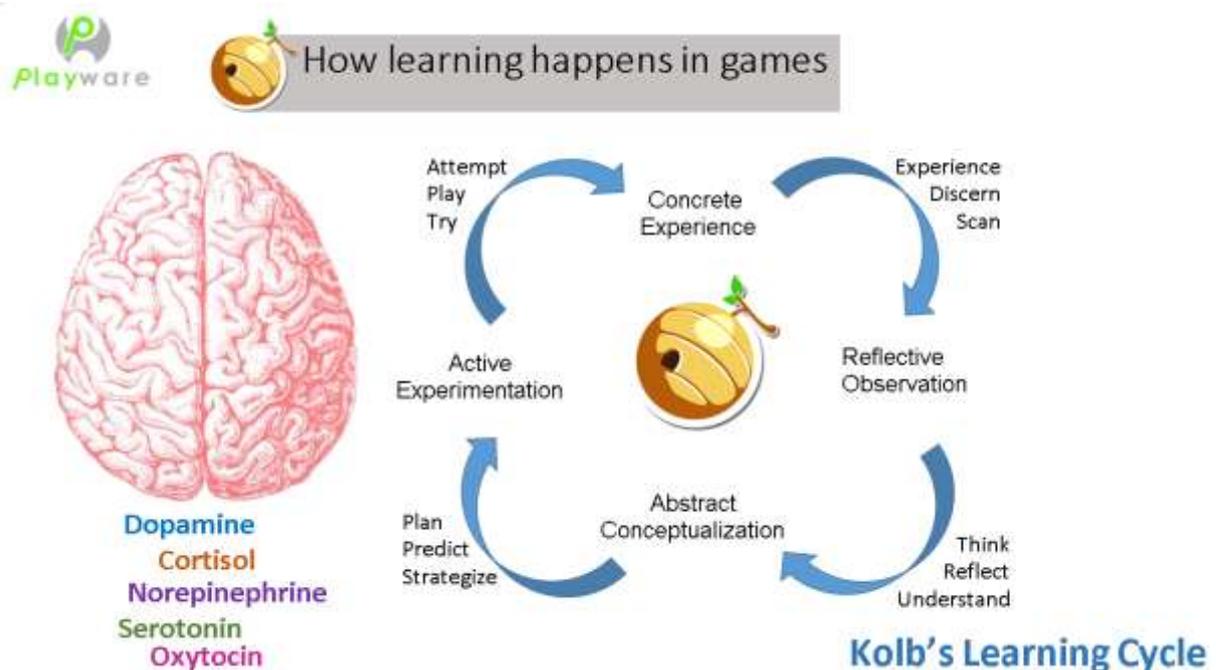
By focusing on sharing and applying knowledge, Case Method 2.0 allows enterprises to tap into power locked in by its current structures, process and systems. Opportunities to leverage the transfer of good practices span the value chain and exist in all organisations across every industry.

At the heart of an effective practice transfer program are the following pedagogies:

- * Single Loop Learning
- * Double Loop Learning
- * Kolb's Learning Cycle

Case Method 2.0-based learning is an effective vehicle for all these methodologies and more (such as teamwork, problem based learning). Through research led by early adoption and experimentation in the Healthcare sector (symbolising both ready-for-anything and life-long learning), Case Method 2.0 Based Learning is fast gaining adherents in mainstream and higher education and corporate learning.

Case Method 2.0-based learning supports desirable practice by translating an idea or concept into an action or choice; "a hard theory to put into practice". By a process of repeated performance and systematic exercise, it helps its user in acquiring proficiency. From navigating complex decision processes to internalising established best practices and procedures, it motivates users to think and reflect on their actions and understanding.



Case Study 1:

Jurong Health (Virtual Nurse)

Aim

The aim was to develop a training medium that is able to reach out to the large nursing cohort quickly, minimizing logistical constraints, and delivering training effectively, by developing an engaging platform that creates a lasting impression, facilitating good knowledge transfer.

Method

To assess the effectiveness of the training application, an assessment was conducted with two groups of nurses, a test group (nurses who have attempted the game) n=62 and a control group (nurses who have not attempted the game) n=68. The assessment was based on common nursing knowledge that was covered in the mobile application.

A comparison between adoption of the mobile application and attendance of conventional classroom in-service trainings was conducted 3 months after the launch of Virtual Nurse, based on the median number of nurses Virtual Nurse was able to reach per module compared to In-service trainings.

RESULTS

Improvement to learning outcomes suggested that nursing training can be effectively conducted through the use of a virtual mobile application for selected training content.

Virtual Nurse was able to reach a large number of nurses without logistic constraints. Compared to In-Service Training, the mobile application was able to train more nurses within the same period of time. It is proven to be time and cost efficient.



Simple & Fast distribution



Case Study 2:

Alice Lee Centre for Nursing Studies, Yong Loo Lin School of Medicine. (Blood Transfusion Game)

AIM

Nurses have an increased responsibility to perform blood transfusion, a complex procedure in the clinical setting. It is important for nursing students to master this task to ensure patient safety. Although simulation has been utilized, not all students are given the opportunity to participate in the learning activity, leading to wide variation in their competencies and performance in actual clinical setting.

METHOD

A clustered, randomized controlled trial was conducted. They were randomized into control or experimental group based on their tutorial grouping. After baseline evaluation of participants' knowledge and confidence on blood transfusion procedure, the experimental group underwent a blood transfusion serious game. All participants were re-tested on knowledge and confidence post-intervention. Experimental group participants evaluated their learning experience through a survey. Two weeks later, participants' skill performance on blood transfusion was tested in a simulated environment.

RESULTS

The experimental group demonstrated significant improvement ($p < 0.001$) in post-test knowledge and confidence scores. Between group comparisons indicated that experimental group had significant improvement in post-knowledge ($p < 0.001$) and confidence scores ($p < 0.001$).

