

## 4.1 Lesson Planning Assessment

TEACHING SESSION PLAN : Lesson Plan 1, Semester 2	
<b>Module:</b> Six Sigma for Quality Management	<b>Level:</b> 7 <b>Year:</b> 3
<b>Duration:</b> 3 hours - 6:30pm to 9:30pm	
<b>Title of session/ topic:</b> Six Sigma Yellow Belt Training	
<b>Mark the type of session:</b>	
Lecture <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Lab <input type="checkbox"/> Studio <input type="checkbox"/> Workshop <input type="checkbox"/>	
<b>Module Outcome</b> (What module outcome(s) is the class/session aligned to):	
<i>This lecture is aligned to the following Learning Outcomes from the Module Descriptor:</i>	
<i>Learning Outcome 2 from the Module Descriptor:</i>	
<i>“Perform various analyses such as DMAIC and Structured Problem Solving”</i>	
<b>Class/Session Outcomes:</b> Upon completion of this session, you should be able to: (Share with students e.g. Write on board /slide/ project image at beginning of lecture for students)	
<ol style="list-style-type: none"><li><i>1. Be competent in the use of the Seven Basic Problem Solving Tools</i></li><li><i>2. Complete a Six Sigma Yellow Belt project.</i></li><li><i>3. To determine where and how to use the Yellow Belt roadmap for industry related Problem Solving activities.</i></li></ol>	

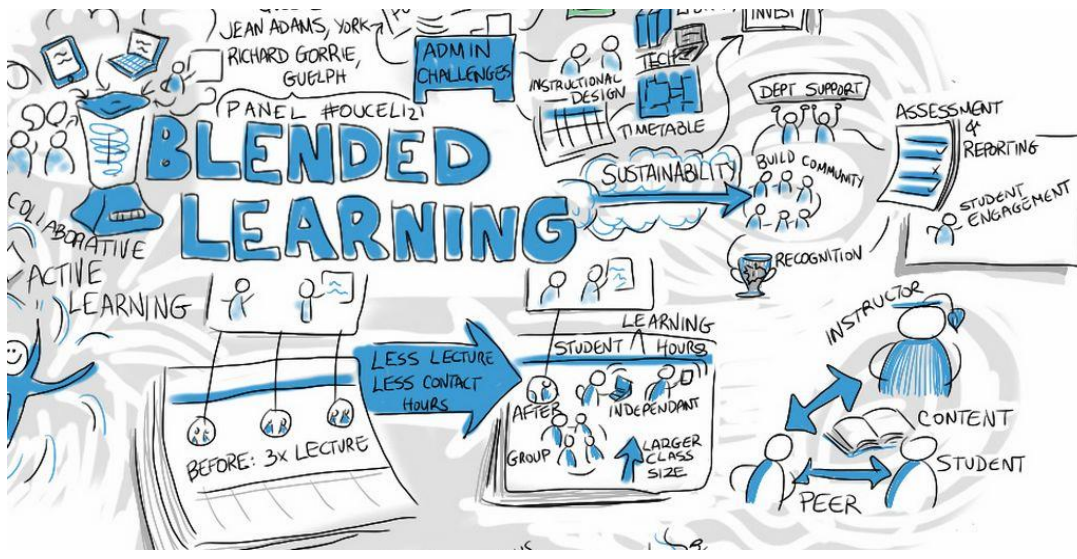
**Select & Prioritise Your Content:**

For the session, decide what material is used in class and what material the students should study independently and/or online. To do this, think about the material and its relative importance and prioritise and list in the appropriate quadrant.

	Independent Learning – Teacher led	Independent Learning – Student led
<b>Priority</b> <b>(Need to know)</b>	<b>1</b> <i>The lecture will follow the class lecture notes on Six Sigma Yellow Belt Training on my Moodle page.</i>  <i>Templates resources relating to the Seven Basic Problem Solving Tools on my Moodle page.</i>  <i>Facilitate the teams and lead them in Problem Based Learning tools</i>	<b>2</b> <i>In advance – flipped classroom</i>  <i>Students have been working remotely on this Problem Based learning Project with team members since last week’s lecture.</i>  <i>Complete the drawing of Cause and Effect Diagram, Pareto Charts, Runs Charts and Histograms on the data provided in the workshop last week.</i>
<b>Supplementary Learning</b> <b>(Nice to know)</b>	<b>3</b> <i>Reflective practice tools.</i>	<b>4</b> <i>I have advised students to review the use of any of the Seven Problem Solving tools</i>  <i>Talk to a colleague who has previous experience of working on working on a Yellow Belt Team. take the opportunity, if it arises in the workplace to be part of a Yellow Belt/Problem Solving Team.</i>

**Material in quadrants 1 and 3 typically become the focus during classes. Quadrants 2 and 4 represent material students could study themselves and use the VLE/Moodle and online learning objects to support this learning.**

**Think about how you might incorporate Technology Enhanced Learning Tools and Blended Online Learning Objects, that will develop students learning and engagement with the module.**



Teacher Activity:	Student Activity
<p><b>Stage 1: 0 to 30 mins.</b>  <i>Recap on the previous lecture's learning outcomes which were Steps 1 to 4 of the Yellow Belt Roadmap. Check for prior knowledge/prior learning of the new topics in Steps 5 and 6 of the Yellow Belt Roadmap.</i></p> <p><b>Stage 2: 30 to 90 mins.</b>  <i>Facilitate each team presenting their projects to date including all the outcomes of Steps 1 to 4 of the Yellow Belt Roadmap. Listen attentively and ask any questions of the presenters to embed the learning and highlight the practical applications of what they have learned through completion of the Problem Based Learning project.  Summarise each group's status, look for clarification and offer further direction on the project.</i></p> <p><b>Stage 3: 90 to 120 mins.</b>  <i>Introduction of the theory of Reflective Practice. Reiterate to students to use the reflective practice on how they worked as a team member as an opportunity to develop their team skills both professionally and personally.  Completion of the remaining slide content on Steps 5 and 6 of the Yellow Belt Roadmap.</i></p> <p><b>Stage 4: 120 to 150 mins.</b>  <i>Provide the students with the materials for the final workshop to complete Steps 5 and 6 of the Yellow Belt Workshop.</i></p> <p><b>Stage 5: 150 to 180 mins.</b>  <i>Facilitate the debrief of the final workshop. Recap on the learning objectives for the lecture and work through any questions or concerns the students may have.  Outline the expected format for the Yellow Belt report, giving the students the timeline and the go through the report template. Give the schedule and topic for the following week's lectures.</i></p>	<p><b>Stage 1: 0 to 15 mins.</b>  <i>Provides a bridge/link from the last workshop lecture and allows the students to make the links. Encourage the students to answer the review questions that I am asking and constantly encourage students to ask any questions.</i></p> <p><b>Stage 2: 30 to 90 mins</b>  <i>Students in their teams to present the work that they completed since the previous week's workshop.  Each group to provide a verbal update on the status of their group project.  Students will be Peer learning evident during this part of the lecture as the students will gathering more information about their projects and the different work environments that exist as they listen to their peers and my feedback.</i></p> <p><b>Stage 3: 90 to 120 mins.</b>  <i>Students to complete Reflective Practice form from the perspective of using this as a tool to improve their team skills in the work place.  Ask questions on the new material for steps 5 and 6 of the Yellow Belt Roadmap</i></p> <p><b>Stage 4: 120 to 150 mins.</b>  <i>Students to work in their teams, using the new material to complete steps 5 and 6 of the Yellow Belt workshop.</i></p> <p><b>Stage 5: 100 to 120 mins.</b>  <i>Students get to present their final problem and solution for the Yellow Belt problem based learning workshop.  This presentation allows the students to embed the knowledge and comprehension of the Yellow Belt tools and roadmap. The students will leave the lecture with the confidence that they have achieved the learning outcomes and will have the confidence to put themselves for a Yellow Belt/Problem Solving project in their workplace.  They are clear on the expectations and plan for the following week</i></p>
<p><b>Online Student Engagement Tools:</b></p> <p><i>All my lecture notes and templates needed for the Six Sigma Yellow Belt Workshop are on my Six Sigma for Quality Management Moodle page.  I have also placed the templates for the 7 Quality Tools on Moodle..  All teams have the other team members GMIT email addresses so that they can collaborate during the week between lectures to get the project completed.  I demonstrated to the class how to use a shared document on One Drive so that all team members can work on the one document for the final report.</i></p>	

## **Teacher Reflection:**

### **What worked?**

*The teamwork worked very well. I had selected the team leaders and team groups based on the combinations that I felt would work well together. The team dynamic is all 4 teams worked well and the team leaders in each team did a very good job with some guidance on their role.*

*I stressed to all students about the importance of using this fictitious problem based learning workshop as a practice for the real thing at work and pointed out ahead of time that they would be completing a reflective practice form on how they operated as a team member or a team member. They found this useful as they would not have an opportunity to do this at work.*

*The students were delighted to get the opportunity to work on a problem solving team in a safe setting of the class and the feedback from the students was that they would feel confident about working on a problem solving team in their workplace after doing the Yellow Belt training as part of this course/*

*I have advised the students to use the tools and roadmap they have learned in the workplace, if they get the opportunity, in order to crystalize the learning.*

*All students were actively engaged throughout the two, 3 hour workshops.*

*They found the problem based learning (PBL) model is very effective.*

### **What did not work?**

*There was some repetition in material when the students were doing the team feedback on their projects at the beginning of the lecture. They were all working on the same problem which gave rise to the repetition. In fairness though, all students followed our class ground-rule of "Give Respect, Get Respect" when all speakers were delivering their presentations, even though it was repetitive.*

### **To what extent did you address different domains of learning?**

#### ***The three domains of learning are:***

- 1. Cognitive: mental skills (knowledge)*
- 2. Affective: growth in feelings or emotional areas (attitude or self)*
- 3. Psychomotor: manual or physical skills (skills)*

#### ***Cognitive: mental skills (knowledge):***

*The Cognitive Domain of learning was addressed with the delivery and absorption of the lecture content – the students received new knowledge about Yellow Belt training which none of them had before the Yellow Belt workshops. Comprehension and application of the new knowledge was demonstrated by use of this knowledge in the completion of the Yellow Belt project Report and their ability to draw conclusions from the facts and data they had been presented with, ultimately solving this industry based problem. The report that they documented the solving of this problem is part of the assessment of this module.*

## **Teacher Reflection (continued):**

### **To what extent did you address different domains of learning? (continued)**

#### ***Affective: growth in feelings or emotional areas (attitude or self):***

*The Affective Learning Domain involves our feelings, emotions and attitudes. The student had to work in teams both in and outside the classroom to solve the problem together. This involved working with people they had not engaged with before. I pointed out to the students that there was not a lot of time for the natural stages of Team development - Forming, Storming, Norming and Performing and that they had to fairly quickly get into the Performing stage to solve the team based problem in the allocated time. The teams gelled pretty quickly and got on with the job.*

*I think the fact that I informed the students at the beginning of the workshop that each of them had to complete a reflective practice form documenting how they worked in the team dynamic made them aware of how they were to work best in the team.*

*I pointed out that trying something new and making mistakes is a valid and valuable way of learning and that this was a safe enjoyment to practice and hone skills needed for the workplace.*

#### ***Psychomotor: manual or physical skills (skills):***

*The psychomotor domain is concerned with utilising motor skills and coordinating them. The students had to perform brain storming and complete a Cause and Effect Diagram as part of the workshop. This entailed writing out potential causes of the problem on individual post-its and them collating the post-its on a large diagram of a Cause and Effect chart on the wall so they were moving and arraigning the different causes. They also used Excel to draw graphs and to create the report. Each team had a lap top to complete the statistical analysis and draw graphs.*

### **What would I do differently next time?**

*I have been running this Six Sigma Yellow Belt workshop for a number of years as it is what is widely used in industry for solving problems. I continue to tweak it and improve it for each subsequent year, this year the teams requested some additional information as part of their problem solving endeavours so I will include that information for next year's class.*

*There was some repetition in material when the students were doing the team feedback on their projects at the beginning of the lecture. They were all working on the same problem which gave rise to the repetition. For the next running of this course I think I will point out to teams, rather than repeating some of the same information that the previous team has presented to give any additional information that other teams haven't mentioned. All teams can have everything included in the written report but when doing the verbal presentation direct them to summarise the information and avoid repeating information that previous teams presented.*

*One of the core themes throughout this module in Six Sigma for Quality Management is "Continuous Improvement" which I endeavour to employ in the ongoing development of all the modules I teach.*

*I would like to thank my students for agreeing to have an observer in this class on the evening of the 14<sup>th</sup> March 19. '18.*

*I would also like to thank Karen Gibbons, one of my classmates on the Certificate for Teaching and Learning, who did the peer assessment for me that evening.*

*Regards,  
Rachel*