

# The Use of Reflective Practice to Support a Final Year Team Research Project in Biosciences

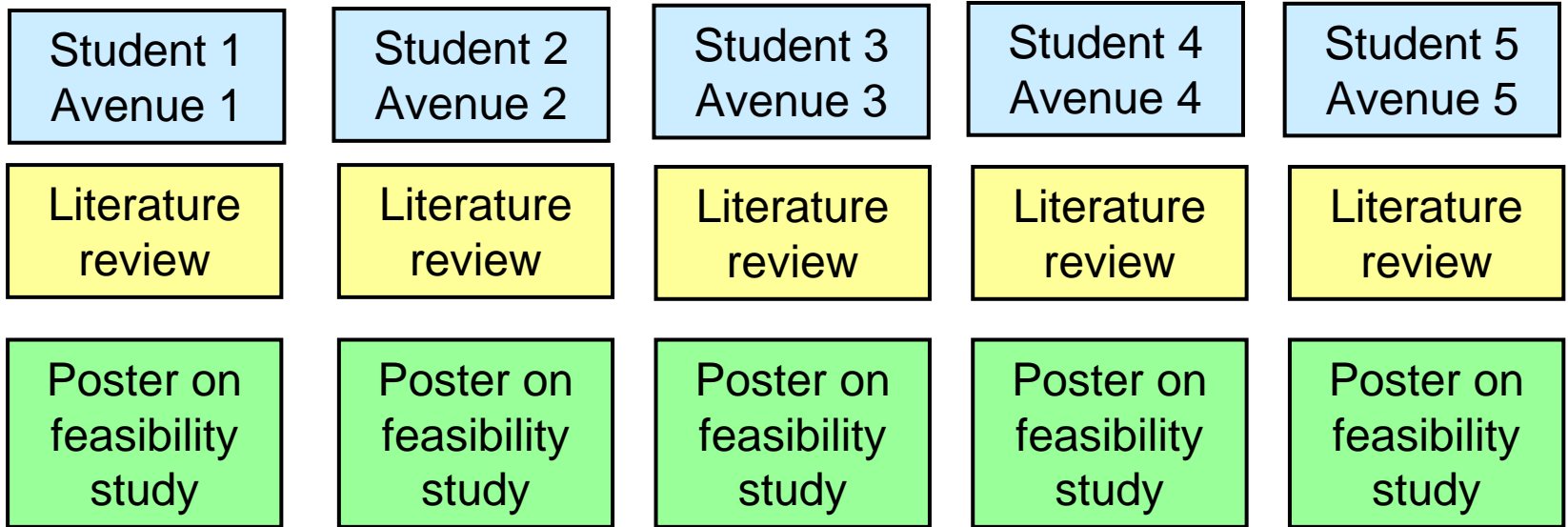
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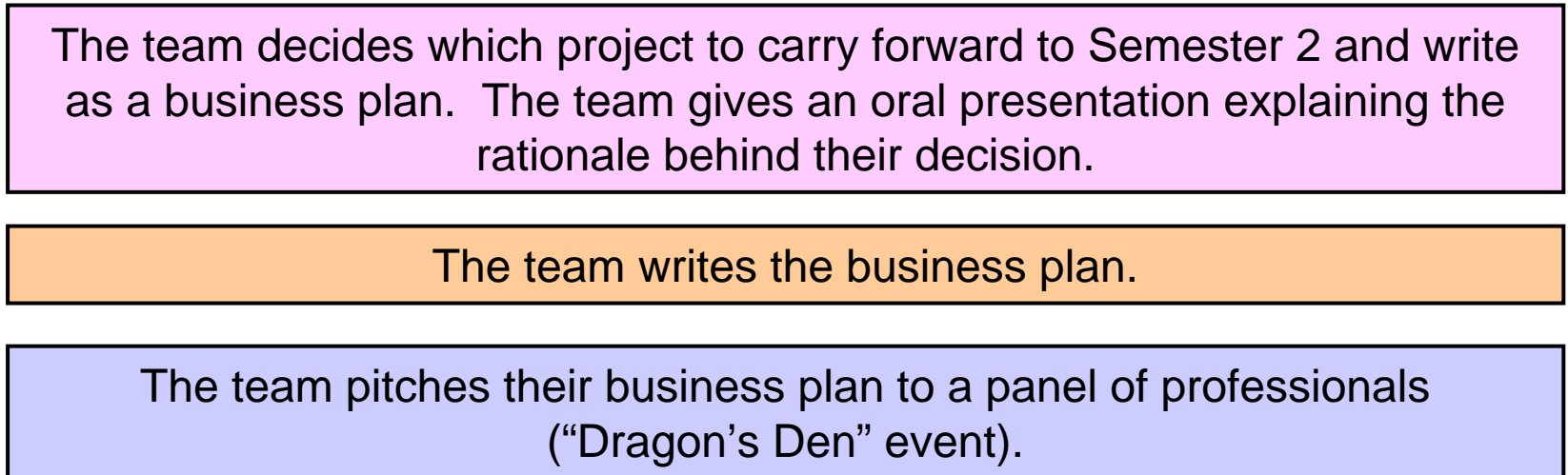
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Each team works on 5 different avenues on the same theme  
(e.g. theme: diabetes, avenue 1: islet separation)

Semester  
1



Semester  
2



# Intended Learning Outcomes

- Develop critical thinking
- Develop, structure and communicate ideas effectively
- Develop and utilise creative problem solving skills
- Plan and prioritise work load and **work effectively in both teams** and as an individual
- **Reflect on individual and team performance as a basis for personal development**
- **Reflect upon personal and team strengths and weaknesses in the context of project work and be aware of how this information can be used**
- Develop useful networks

# Need for reflective practice

- Students do not always recognise the transferable skills they have developed
- To assist the students with self- and skills development
  - a personal development portfolio specifically for this course
  - relate to professional development: progress appraisal
  - “stepping stone” to future careers
- To support team work and project management
- To support the Enquiry-Based Learning (EBL) approach

# How do you explain what reflective practice is to students?

- Use example of analysis of experimental success: ***science of reflection***
- Capture students thought processes
- Question-based practice
- *E.g.* reflection upon the poster presentation:
  - *How successful was I in the activity? Why (or why not)? If applicable, any prior evidence/experience to compare with?*
  - *Did I achieve what I wanted to? What are the criteria for success in this activity?*

# Assessment of performance in poster presentation

*'I feel that I let myself down during the poster presentation. My poster did not meet the requirements that it should have. I realised that when I designed the poster, I did not think of why I was designing it. What was its purpose? Who was I designing it for and what were they going to use it for?'*

***What will I do differently next time?***

# Reflective Portfolio: format

*“Before LSEP, I carried out minor reflection/evaluation of teamwork mentally and only after tasks were completed. It was almost impossible to use the reflection for personal development, as I would often forget my thoughts before the next event.”*

# Reflective Portfolio: *Components*

- Ongoing reflective log
- SWOT analysis I, competency form
- Reflecting upon the team planning process
- Reflecting upon the execution and outcome of the team plan
- SWOT analysis II:
  - did I achieve the ILOs of the course?
  - how has the course prepared me for my future career?

# Assessment criteria

- Preparation and content
- Reflective capabilities
- Structure
- Use of English

# Preparation & Content

- Report contains only facts.
- No evidence that student has undertaken exercise/activities to gain further personal information.
- No attempt to use feedback from peers/tutors.
- *No evidence of use of literature.*
- Contains both facts and thoughts.
- Student has undertaken exercises/activities to make an accurate evaluation of his/her own strengths/weaknesses.
- Uses feedback from peers/tutors effectively and/or uses team discussion from tutorials/workshops/team meetings effectively.
- *Uses evidence or information from the literature effectively as guidance for task or to reflect upon when evaluating own skills/setting targets.*

# Reflective Capabilities

- No evidence of assessing their own strengths and weaknesses.
- Focuses on other people rather than self. Does not take personal responsibility for actions. No sense of progression.
- Has no understanding of personal development needs.
- Unable to set goals or strategies for improving weaknesses.
- No reflection/learning derived from previous experiences.
- Analyses their own (and team) capabilities and/or performance: weighs up strengths and weaknesses.
- Recognises and reflects upon personal/team/skill development process: a sense of progression.
- Has a clear idea of what they wish to achieve and their own personal development needs.
- Evidence of planning for the future: sets targets and provides concrete ideas/strategies for meeting those targets.
- Demonstrates ability to draw on other experiences and relate these to LSEP.

# Reflective Capabilities

Can they pin point specific issues?

Can they bridge the gap between where they are now and where they want to be?

# Assessment of performance in literature review

*'I think that part of the problem is my style of writing. I tend to be quite descriptive and I waffle, which isn't very good for scientific writing. When reading scientific papers I much prefer the short and pithy articles as I find that they get the point across in a direct but comprehensive fashion. I need to learn to mimic this style to be more concise and succinct. I have found reading my work aloud helps with this, and I've also printed off my first draft and attacked it with red pen as I found it much easier to be ruthless on paper.'*

# Less successful examples

*‘we presented our time line in class, I thought it was quite good, and I had a lot more input, which I was pleased with.’*

*‘next time I meet with him, I think I should be properly prepared and have thought a lot more about the project so that I can be more confident when discussing it with him.’*

*‘at times I am finding myself increasingly frustrated with the group when our discussions lead nowhere and the work isn’t getting done. From this I think that as a group we need to become a bit more focussed in what we need to get done in the sessions rather than waste time.’*

# Evaluation: *Student Perceptions*

Comment	Responses
Have done it for a long time now and recognise how useful this activity is	0/21
Feel quite confident that I am good at it and get what I am supposed to out of it	3/21
Can see myself becoming better at it and I am getting more and more from it	6/21
Have to force myself to do it, but I can see a point in doing it	8/21
Do it because I have to, but do not see any point in doing it	4/21

# Students Perceptions

- *“One of the most valuable transferable skills I have learnt from this project is my new ability to reflect.”*
- *“Towards the end of the course I not only found it easier to find a topic to write on [weekly] but I also found that the practice made it easier to make links between different parts of the course and realise what effects my actions might have.”*
- *“By identifying my weaknesses I have consequently come up with strategies of how to improve my skills. I am more comfortable at asking for feedback and advice on how I can improve my work; I now take a more active role in my own learning and development.”*

# Benefits to students

*“Self-reflection! Not only can I point out areas of weaknesses, strengths etc. I can successfully identify them and actually constructively act on them.”*

*“As a side note, I am continuing to gain so much more from this course than just knowledge ..... The self development and understanding that I have gained, and continue to gain, from the course materials and these personal reflective logs is what I now feel are going to be the true rewards of this course and not just the mark contribution to my final degree.”*

# Benefits to staff

- Real time feedback on course
  - assists in planning next year's course
- Monitoring students, team progress and dynamics
  - useful for staff and students
- Development of rapport between staff and students

# What did we learn?

- Not all students will engage with the process
- Introduction is key:
  - scientific analogy
  - relevance and purpose
  - focus on one issue
  - examples of reflective logs
- Continual personal feedback is vital
  - should be formative at start
- Consideration of word count

***Any questions?***

# ***What makes good reflective practice?***

- For good reflective practice that displays self-evaluation and maps out a measurable developmental progression the reflection should:
- Be written in a style that is clear and concise
- Use jargon free language
- Include description, analysis and judgements
- Address the experience represented both in good areas and in areas that need developing
- Contain both facts and feelings
- Goal setting
- Give insights with examples as to how self learning has taken place
- Give insights with examples as to how you can build on these experiences
- Demonstrate your ability to project future goals (short and long term)