An activity based framework to support short student placements with companies

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Guidance for use

The purpose of the framework is to provide a common reference guide for both students and tutors to support teaching and learning related to student placements with companies. These placements involve students being based at a company for two weeks and working in teams on a real problem. The framework is presented at two levels, firstly as seventeen activity groups and then, twelve of these groups are broken down into key activities. Please note the following when using the framework.

1. All placements are different. NOT all activities listed in the framework will be required for every placement and, it is not guaranteed that all possible activities have been identified.
2. The framework only captures student activities of a general nature –additional activities may be required that are specific to a project.
3. Initial project selection activities are not included i.e. activities start once project allocations and project groups have been made
4. There may be significant interaction between different project stages and some project stages can progress in parallel. Students should be aware of this and manage their projects effectively.
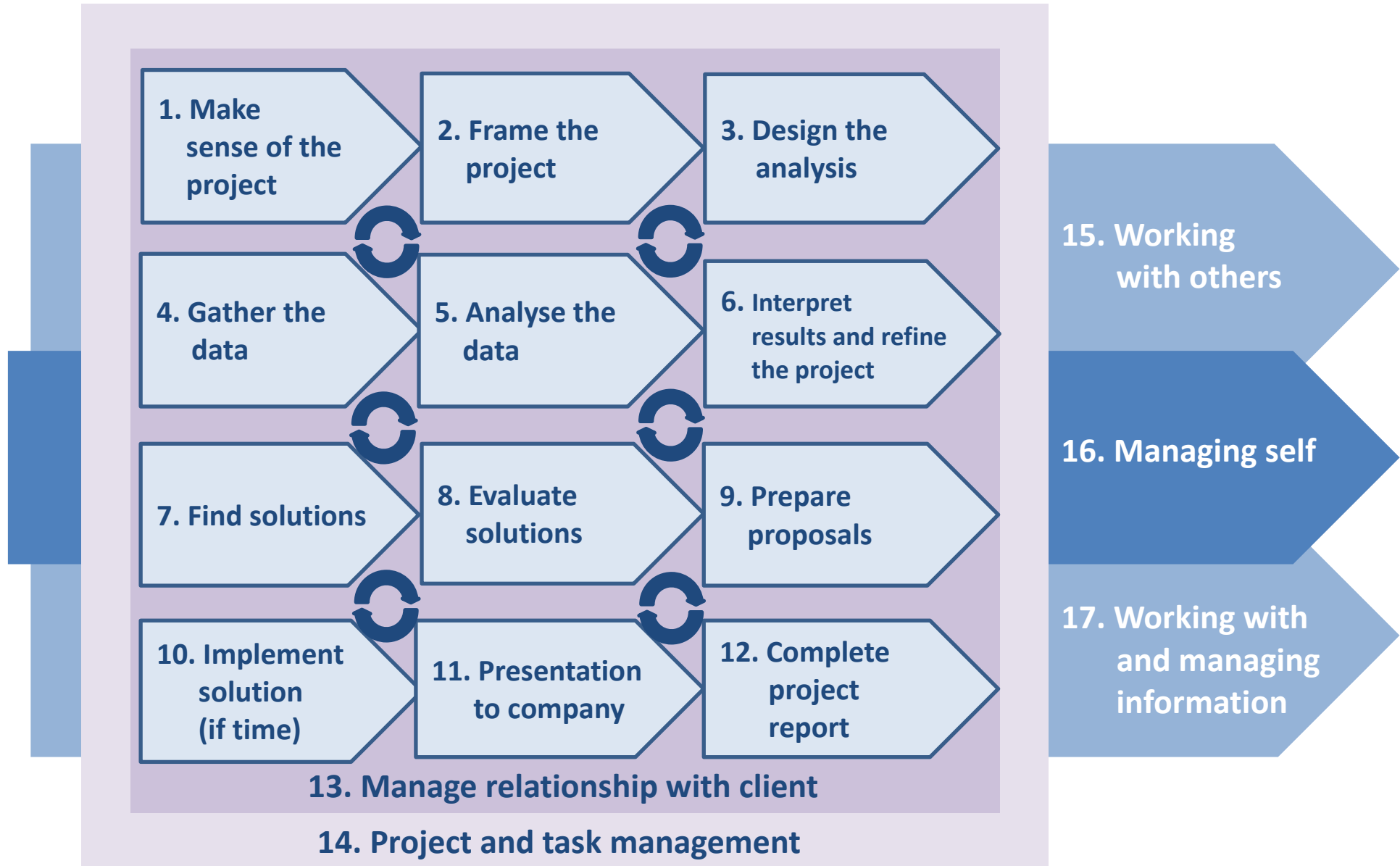
Framework Background

The framework is based on best practice and academic literature and has been tested on eighty industry based projects as part of research at University of Cambridge. See Shawcross, J. K. & Ridgman, T. W. (2014) Short Industrial Placements - developing an activity based framework to support teaching and learning. *Higher Education, Skills and Work-Based Learning,* Vol 4, Issue 3.

There are 17 activity groups, 12 relating to 'project stage's and 5 relating to 'through placement activities'. Through placement activities have proven less easy to capture in a way that does not generate overlaps or significant repetition. Two groups of these activities have been incorporated into the model i.e. '13. Manage the relationship with the company' and '14. Project and task management' by including process stage related items and providing general guidance depending on the stage of the project. The remaining three 'through project activity' groups of '15 Working with others', '16 Managing self' and '17 Managing information' are not captured in detail as they vary significantly depending on the project context. Further work is underway to address these aspects.

For further information regarding this framework please contact **Judith Shawcross E:jks45@cam.ac.uk**

STUDENT PROJECT ACTIVITY GROUP FRAMEWORK

1. Make sense of the project

2. Frame the project

3. Design the analysis

4. Gather the data

5. Analyse the data

6. Interpret results and refine the project

7. Find solutions

8. Evaluate solutions

9. Prepare proposals

10. Implement solution (if time)

11. Presentation to company

12. Complete project report

13. Manage relationship with client

14. Project and task management

15. Working with others

16. Managing self

17. Working with and managing information

Student Project Activity Framework

Process Stage	Description	Ref	Activity	Manage the relationship with the client	Project and task management
1 - Make sense of project	Assimilate company and project context. Develop a clear understanding of the project brief, key stakeholders and their expectations.	1.1	Discuss project brief with supervisor/mentor and project team	*Keep the client informed of planned actions and progress. Ask for access to information and contacts. Discussion and resolution of issues as they arise.* / *In the early stages of the project it is essential to agree communication methods, frequency, timing and with who. Don't forget to confirm the project brief with client i.e. activity 2.4*	*Develop an overall project plan as well as detailed plans per stage. Actively manage the project including, monitor progress and priorities against plan and, make refinements as required.* / *It is essential to develop an understanding of each other's strengths and weaknesses to assist with task allocation. Don't forget to keep in touch with your supervisor/mentor on matters that could have significant impact on the project outcome.*
		1.2	Identify key technical knowledge and/or tools/techniques likely to be required and ensure relevant resources are accessible		
		1.3	Assimilate publically available company information		
		1.4	Assimilate market/industry information		
		1.5	Assimilate information about company challenges/issues		
		1.6	Dissect a project brief to determine areas to question		
		1.7	Discuss project brief with company and determine expectations and key stakeholders		
2 - Frame the project	Generate a picture of the project and its component parts. Identify what questions need to be addressed and any hypothesis to be tested	2.1	Define project scope and boundaries		
		2.2	Break down problem /design /investigation into component parts		
		2.3	Identify the questions / hypotheses for each component		
		2.4	Verify project framing and deliverables with key stakeholder/s and rewrite project brief if required ensuring project objectives are SMART.		
3 - Design the Analysis	Select the tools/methods to be used, define the output required from the analysis and identify data requirements.	3.1	Identify analysis tools/methods suitable to answer 2.3		
		3.2	Select most appropriate tools/methods		
		3.3	Define outputs and ensure they are consistent with formats used by the Company for decision making		
		3.4	Identify what data is needed – qualitative and quantitative		
		3.5	Identify sources of data		
4 - Gather the data	Gather qualitative and or quantitative data from a range of sources internal or external to the company	4.1	Arrange interviews / meetings		
		4.2	Conduct structured / semi structure interviews face to face		
		4.3	Conduct telephone interviews / enquiries		
		4.4	Extract data from company / industry / research reports		
		4.5	Extract data from company systems		
		4.6	Extract data from public sources – internet		
		4.7	Capture new data e.g. take measurements, instrument readings etc.		
		4.8	Design, distribute and collate data via survey/questionnaire		

Process Stage	Description	Ref	Activity		
5 - Analyse the data	Critical and rigorous analysis of the data. Generation of visualisations useful to interpret results	5.1	Sort and structure data to enable analysis		
		5.2	Deal with incomplete or inconsistent data – make assumptions		
		5.3	Assess reliability/validity of data and assumptions		
		5.4	Deal with large data sets e.g. those requiring use of macro's		
		5.5	Analyse qualitative data		
		5.6	Analyse quantitative data		
		5.7	Develop visualisations of data		
6 - Interpret results and refine the project	Determine results and consider what these might mean for different stakeholders. Validate results. Refine project specification and objectives if required	6.1	Identify anomalies in data	**Manage the relationship with the client** Keep the client informed of planned actions and progress. Ask for access to information and contacts. Discussion and resolution of issues as they arise. *In the mid stages of the project it is essential to discuss your findings, their implications for the project and proposed solutions. This enables you to gage reaction and build support.*	**Project and task management** Develop an overall project plan as well as detailed plans per stage. Actively manage the project including monitor progress and priorities against plan and make refinements as required *In the mid stages of the project, monitoring progress against plan and reviewing priorities is critical. Some later stages can happen in parallel e.g. presentation preparation and report writing.*
		6.2	Consider results in relation to hypotheses / questions posed in 2.3		
		6.3	Draw insights from results and identify further questions or issues.		
		6.4	Validate results from different stakeholder perspectives		
		6.5	Refine project definition, boundary, scope, deliverables etc. as required		
7 - Find solutions	Identify feasible solutions	7.1	Generate ideas using creative (divergent) thinking		
		7.2	Collect ideas of potential solutions from company sources		
		7.3	Search for potential solutions from outside the company		
		7.4	Identify resource, operational and technical constraints		
		7.5	Shortlist feasible solutions / options		
8 - Evaluate Solutions	Select preferred solution/s using a logical and relevant selection procedure. Test suitability and acceptability with stakeholders	8.1	Identify appropriate selection criteria		
		8.2	Test different options to generate performance data		
		8.3	Apply a logical methodology for ranking options		
		8.4	Identify a preferred solution		
		8.5	Discuss with stakeholder/s to validate evaluation and test suitability and acceptability of preferred solution		

Process Stage	Description	Ref	Activity	Manage the relationship with the client		Project and task management	
9 - Prepare Proposals	Prepare a clearly argued and comprehensive business case to support your recommendations	9.1	Develop supporting arguments				
		9.2	Develop a detailed actionable implementation plan identifying key resources required				
		9.3	Develop financial business case				
		9.4	Identify and quantify (where possible) benefits, risks and resource requirements				
		9.5	Discuss proposals with stakeholders to test recommendations				
10 - Implement Agreed Project Solution	Get agreement to implement solution/s and work with appropriate people to make changes and evaluate their success.	10.1	Obtain agreement by appropriate people	*Keep the client informed of planned actions and progress. Ask for access to information and contacts. Discussion and resolution of issues as they arise.*	*In the final stages of the project it is essential to discuss your proposals to build client buy in prior to the presentation*	*Develop an overall project plan as well as detailed plans per stage. Actively manage the project including monitor progress and priorities against plan and make refinements as required.*	*In the final stages of the project, monitoring progress against plan and regularly reviewing priorities is critical to ensure all essential activities are complete on time.*
		10.2	Make agreed changes				
		10.3	Monitor progress of implementation and deal with issues as they arise				
		10.4	On completion check changes are fully operational and delivering benefits anticipated				
11 - Prepare and deliver project presentation	Prepare and deliver a presentation to the company and supervisor/mentor to a high professional standard	11.1	Prepare the presentation				
		11.2	Practice the presentation				
		11.3	Identify likely questions and prepare answers				
		11.4	Deliver the presentation				
		11.5	Capture key points, questions and reactions to the presentation				
12 - Complete project report	Prepare and submit project report consistent with report guidelines and make corrections required for company submission	12.1	Agree report structure, format and responsibilities				
		12.2	Prepare draft report sections				
		12.3	Collate and edit report then submit by deadline				
		12.4	Assimilate feedback from supervisor/mentor and make required corrections to report				

Manage the relationship with the client

Project and task management

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