

# Capstones across disciplines RESOURCES

## Typology: Projects

It is very common for capstone curriculum to be project-based. However, the ways in which projects are structured and, in particular, the level of autonomy and complexity in those projects, varies enormously. This typology provides a broad overview of four major types of project focusing on the degree of control exerted on topic, processes and outcomes. It is intended to provide general guidance on considerations for the way projects are defined, and to aid decision-making for those new to developing project-based curriculum. As always, this is a provisional guide, subject to revision and adaptation in differing circumstances.

	General description	Processes	Products
<b>Independent project</b> <i>(common to capstones and post-graduate study but also seen in progressive education at any level)</i>	In independent projects, students work autonomously in a process of autonomous critical inquiry with little or no defining structure. They define and resolve complex problems in some depth, making all critical decisions about the nature of the work that is undertaken and outcomes that might unfold as a result.	<p><i>Activity:</i> Generally independent work on project tasks, individual review discussions, student-directed peer support.</p> <p><i>Knowledge resources:</i> None or general/principles only, student chooses whether to use and should generally gather own.</p> <p><i>Teacher role:</i> Sets overall target for outcomes, supports progress, <b>mentor</b>.</p> <p><i>Student role:</i> Sets project direction, self-reflective, self-regulated and self-directed, <b>autonomous learner</b>.</p>	<p><i>Form:</i> <b>Artefact and defence</b> outcome such as presentation, thesis, product, documentation, oral defence. Multiple interrelated and integrated parts.</p> <p><i>Criteria:</i> Complex decision-making, depth and breadth of inquiry, critical analysis, synthesis and formulation of arguments through thorough exploration of a field, coherent application of knowledge and <b>sophisticated</b> treatment of problems.</p>
<b>Guided project</b> <i>(very common to capstones and in some disciplines at all levels)</i>	In guided projects, students carry out an independent investigation and development related to a broadly prescribed area, with the general guidance of the teacher. The less open nature of these projects means that students are likely to work within broadly defined and constrained processes and/or topic areas.	<p><i>Activity:</i> Students generally progress own work, some project tasks as in-class processes, structured peer support.</p> <p><i>Knowledge resources:</i> Some general process and guideline resources provided. Students can reference as appropriate but should also gather own.</p> <p><i>Teacher role:</i> Provides general process instruction, supports progress, <b>guide</b>.</p> <p><i>Student role:</i> Drives most project direction, manages own timelines and defines content, active and increasingly <b>independent learner</b>.</p>	<p><i>Form:</i> <b>Artefact and supporting material</b> showing process including presentation, product, documentation. Several integrated parts including justification.</p> <p><i>Criteria:</i> Decision-making, thorough and consistent development and articulation of a solution using appropriate processes and knowledge for the field, depth of inquiry in situational domain, consistent and <b>resolved</b> treatment of problems.</p>

	General description	Processes	Products
<b>Directed project</b> <i>(less appropriate to capstones but may form part of the project eg directed research activity within a larger investigation)</i>	In a structured project, all students follow same instructions to complete the project activities. Because this approach is highly structured, the work tends to focus on basic integration of investigation and development in a pre-defined or narrow topic, allowing students to make decisions in one domain.	<p><i>Knowledge resources:</i> Most general resources provided, including process and topic. Students should reference as appropriate and gather own in addition.</p> <p><i>Activity:</i> Many project tasks as in-class processes, some independent completion of stages, some individual consultation.</p> <p><i>Teacher role:</i> Provides structure, knowledge and guidelines, <b>supervisor</b>.</p> <p><i>Student role:</i> Develops work within timelines, manages self and demonstrates some self-regulation and self-editing, <b>responsive learner</b>.</p>	<p><i>Form:</i> <b>Artefact</b> and/or supporting material showing application of prescribed knowledge to process. One piece comprising thematically or linear interrelated parts.</p> <p><i>Criteria:</i> Following logical processes to achieve a defined form of outcome, competent completion of parts, self-management and evaluation, <b>integrated application</b> of provided knowledge set.</p>
<b>Project-oriented activity</b> <i>(not appropriate to capstones but may form part of a larger project eg completing an ethics application)</i>	In project-oriented activities, students carry out a series of tasks under instruction. These are at smaller scale than that normally considered a project and are intended to provide training for procedural skills and knowledge. Processes are most likely to involve compliance with a set of linear steps and/or following templates.	<p><i>Knowledge resources:</i> All knowledge resources provided, including process and topic. Students must use as directed to complete all project stages.</p> <p><i>Activity:</i> Generally all tasks or steps completed in class with some instructed and low-risk tasks carried out between sessions.</p> <p><i>Teacher role:</i> Provides detailed direction for all steps, director and <b>controller</b>.</p> <p><i>Student role:</i> Follows instruction with no independent decision-making or time-management other than completion of basic tasks, <b>dependent learner</b>.</p>	<p><i>Form:</i> Artefact comprising <b>step outcomes</b> or culmination of completed tasks.</p> <p><i>Criteria:</i> <b>Compliance</b> with requirements, basic competency in following instruction, <b>completion</b> of tasks.</p>

Typology adapted from Lee, N. (2009). Project methods as the vehicle for learning in undergraduate design education: A typology. *Design Studies*, 30(5), pp.541-560.

**Some useful references on project-based learning**

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