# Planning for Practice

Planning is the up-front and on-going thinking that enables a fit-for-purpose outcome to be developed. It is an essential part of all [technological practice](http://technology.tki.org.nz/Glossary#glossary_31811).

Planning should consider:

* the physical and sociocultural environment of an outcome
* the [context](http://technology.tki.org.nz/Glossary#glossary_31912) the technologist will be working in.

Effective planning enables technologists to systematically account for all the factors that influence the successful fulfilment of a brief. It also supports reflection and decision making.

## Indicators of progression

Level 1

**Achievement objective**

Students will:

Outline a general plan to support the development of an outcome, identifying appropriate steps and resources.

**Teacher guidance**

To support students to undertake planning for practice at level one teachers could:

* ensure that there is a brief against which planning to develop an outcome can occur
* provide students with a detailed plan of what they will be doing during their technological practice. This could be presented and explained as a design process the teacher has developed, with key stages that need to happen clearly identified within it
* provide a range of appropriate resources for students to select those suitable for their use. Teachers should ensure all resources provided are appropriate for use and students should only be responsible for selecting particular materials components, and/or software from these resources.

**Indicators**

Students can:

* identify what they will do next
* identify the particular materials, components and/or software they might use.

Level 2

**Achievement objective**

Students will:

Develop a plan that identifies the key stages and the resources available.

**Teacher guidance**

To support students to undertake planning for practice at level two teachers could:

* ensure that there is a brief against which planning to develop an outcome can occur
* provide students with an overview of the stages they will be working through during their technological practice. This could be presented and explained as a design process the teacher has developed, and it could be used to support students to identify what the key stages are
* provide a range of appropriate resources and guide students to decide which particular materials components, and/or software will be required for each key stage Teachers should ensure all resources provided are appropriate for use.

**Indicators**

Students can:

* identify key stages required to produce an outcome
* identify the particular materials, components and/or software required for each key stage.

Level 3

**Achievement objective**

Students will:

Undertake planning to identify the key stages and resources required to develop an outcome. Revisit planning to include reviews of progress and identify implications for subsequent decision making.

**Teacher guidance**

To support students to undertake planning for practice at level three teachers could:

* ensure that there is a brief against which planning to develop an outcome can occur
* provide students with an overview of what they will need to do during their technological practice and guide students to identify key stages and place these on a timeline of some sort
* provide resources including a range of appropriate materials, components, software, hardware, equipment, and/ or tools for students to select from and guide students to select those that will be suitable for their outcome
* guide students to reflect on progress to make informed decisions regarding next steps.

**Indicators**

Students can:

* identify key stages, and resources required, and record when each stage will need to be completed to make sure an outcome is completed
* explain progress to date in terms of meeting key stages and use of resources, and discuss implications for what they need to do next.

Level 4

**Achievement objective**

Students will:

Undertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome.

**Teacher guidance**

To support students to undertake planning for practice at level four teachers could:

* ensure that there is a brief against which planning to develop an outcome can occur
* provide resources including a range of appropriate stakeholders, materials, components, software, hardware, equipment, and/or tools for students to select from and support students to select those that will be suitable for their outcome
* provide planning tools and support students to use these to record key stages and resources needed, including when they will need to access stakeholder feedback, and to (Please note; records only need to capture what students plan to do and what they need to do it to guide their practice and allow them to review this regularly)
* support students to identify regular review points and to review their progress at these points
* guide students to manage time and organise their selected resources .based on regular reviews of progress

**Indicators**

Students can:

* use planning tools to manage time, identify and record key stages, associated resources, and actions to be undertaken, with progress review points clearly indicated
* review progress at set review points, and revise time management as appropriate to ensure completion of an outcome.

Level 5

**Achievement objective**

Students will:

Analyse their own and others’ planning practices to inform the selection and use of planning tools. Use these to support and justify planning decisions (including those relating to the management of resources) that will see the development of an outcome through to completion.

**Teacher guidance**

To support students to undertake planning for practice at level five teachers could:

* ensure that there is a brief against which planning to develop an outcome can occur
* provide a range of planning tools and support students to analyse these to inform selection of the tools they will use to manage and efficiently record their planning
* support students to review and evaluate progress to inform their ongoing planning decisions
* guide students to ensure appropriate resources are available (stakeholder/s, materials, components, software, equipment, tools and/or hardware) suitable for their outcome
* support students to manage time and resources, including stakeholders interactions.

**Indicators**

Students can:

* analyse own and others use of planning tools to inform the selection of tools best suited for their use to plan and monitor progress and record key decisions
* use planning tools to identify and record key stages, and manage time and resources (including stakeholder interactions) to ensure completion of an outcome
* use planning tools to record key planning decisions regarding the management of time, resources and stakeholder interactions.

Level 6

**Achievement objective**

Students will:

Critically analyse their own and others’ past and current planning practices in order to make informed selection and effective use of planning tools. Use these to support and justify ongoing planning that will see the development of an outcome through to completion.

**Teacher guidance**

To support students to undertake planning for practice at level six teachers could:

* ensure that there is a brief against which planning to develop an outcome can occur
* support students to critically analyse a range of planning tools that have been used in past practice
* support students to select planning tools that will provide appropriate support for their practice and efficient recording of why key planning decisions were made
* support students to ensure appropriate resources are available (stakeholder/s, materials, components, software, equipment, tools and/or hardware) suitable for their outcome
* support students to use selected tools to manage resources to ensure completion of an outcome.

**Indicators**

Students can:

* critically analyse own and others use of planning tools to inform the selection of planning tools best suited for their use to plan and monitor progress and record reasons for planning decisions
* use planning tools to establish and review key stages, identify and manage all resources, and to determine and guide actions to ensure completion of an outcome
* use planning tools to record initial plans and ongoing revisions in ways which provide reasons for planning decisions made.

Level 7

**Achievement objective**

Students will:

Critically analyse their own and others’ past and current planning and management practices in order to develop and employ project management practices that will ensure the effective development of an outcome to completion.

**Teacher guidance**

To support students to undertake planning for practice at level seven teachers could:

* ensure that there is a brief against which planning to develop an outcome can occur
* support students to critically analyse a range of planning tools and project management practices that have been used in past technological practice
* support students to select and use planning tools to make effective planning decisions and establish and manage all resources (including time, money, stakeholder/s, materials, components, software, equipment, tools and/or hardware etc). Effective planning decisions enable the outcome produced to successfully meet the brief.
* support students to select and use planning tools which will allow for the efficient recording of justifications for key planning decisions made.
* support students to ensure appropriate resources are available (stakeholder/s, materials, components, software, equipment, tools and/or hardware) suitable for their outcome.

**Indicators**

Students can:

* critically analyse existing planning tools and project management practices to inform the selection of planning tools appropriate for the technological practice to be undertaken, and for recording evidence to support any revisions to planning
* use planning tools to set achievable goals, manage all resources, plan critical review points, and revise goal and resources as necessary to ensure the effective completion of an outcome
* use planning tools to provide evidence for any revisions made at critical review points and justifies the appropriateness of planning tools used.

Level 8

**Achievement objective**

Students will:

Critically analyse their own and others’ past and current planning and management practices in order to develop and employ project management practices that will ensure the efficient development of an outcome to completion.

**Teacher guidance**

To support students to undertake planning for practice at level eight teachers could:

* ensure that there is a brief against which planning to develop an outcome can occur
* support students to critically analyse a range of project management practices and explore how project scheduling is used to manage technological practice
* support students to establish and implement a coherent project schedule that allows for the coordination and management of the: regular review of goals, planning tools, all resources required (time, money, stakeholder/s, materials, components, software, equipment, tools and/or hardware etc.) and review points
* support students to provide evidence of effective and efficient planning decisions. Effective and efficient planning decisions ensures that the use of resources is optimised during the development and production of an outcome produced to successfully meet the brief.

**Indicators**

Students can:

* establish a coherent project schedule suitable for the physical and social environment where the outcome is to be developed and implemented, informed by critical analysis of existing project management
* implement project schedule, undertaking reflection at critical review points to revise or confirm schedule to ensure the effective and efficient completion of an outcome
* manage the project to provide evidence of the coordination of goals, planning tools, resources and progress review points and justify planning decisions.