1. LEARNING OUTCOMES

By the end of this workshop students will be expected to be able to:

• Explain the relationship between the learning outcomes for a paper and the programme
• Describe and demonstrate, with illustrative examples, the meaning of the terms graduate profile, learning outcomes and alignment
• Demonstrate, with illustrative examples, the elements that need to be aligned in the design of a paper
• Write and review two learning outcomes for a paper that they will be teaching
• Identify the other factors that need to be accommodated in the paper design process
The design of a paper should reflect our teaching and learning beliefs and provide the framework for building the paper content, teaching and learning approaches and the assessment. However, in the university sector, papers (courses) are often designed by individual academics around content topics and without attention to the programme as whole or other papers. When we develop papers as self-contained entities composed of discrete topics, we need to consider the implications for our students’ learning. When designing papers, we need to remind ourselves of the nature of the learning that we want our students to develop and consider whether the structure of our papers sufficiently supports this goal. Bloom’s Revised Taxonomy (see page 4 of this booklet) is a helpful prompt for reminding ourselves about the levels and kinds of learning that we aspire to for our students.

Paper outlines suggest that many tertiary educators believe that it is important that students develop some of the higher order competencies such as analysing and evaluating. These attributes emphasise an ability to make connections and comparisons and see relationships. We need to question ourselves as to whether our design of papers and programmes genuinely supports and nurtures the development of these attributes.
Learning outcomes for qualifications describe the general and specific learning competencies expected from graduates who have completed the programme. These include general attributes that may vary between academic disciplines and competencies such as research skills, problem-solving abilities, communication capacity and critical thinking.

Learning outcomes should also refer to the elements of content that are unique to the programme undertaken and to its particular modes of inquiry. In professional schools, the graduate outcomes, both in terms of content and process, may be influenced by the requirements of the relevant professional bodies.

Clearly identified qualification learning outcomes serve to indicate the sort of knowledge and competencies expected from a graduate of a particular qualification. Identifiable outcomes should assist teachers in their planning of individual papers enabling them to contribute the overarching goal of the study.

Finally, outcomes provide shape and direction for programmes and a way of communicating to external bodies and employers the knowledge and competencies to be expected of graduates from a particular qualification.
AN EXAMPLE FROM THE BCS HELPS TO ILLUSTRATE THE RELATIONSHIP BETWEEN

GRADUATE PROFILE AND PAPER LEARNING OUTCOMES.
Learning outcomes for papers provide a map for both teachers and students outlining the direction of a paper in relation to content and teaching and learning approaches. Learning outcomes provide a tool for aligning the design, teaching and assessment of a paper and ensuring that these processes are transparent to the students.

Paper learning outcomes give shape to a paper, but should retain sufficient flexibility to be responsive to students’ interests, learning and progress. Papers may have unexpected (and unstated) learning outcomes and these are desirable. Paper outcomes need to be level appropriate and written in a way that acknowledges the diversity of students.

Paper learning outcomes indicate the attributes that the students may be expected to acquire by the end of the paper. Learning outcomes will usually describe a combination of paper content and particular ways of engaging with that content. Learning outcomes for papers are written at the level of learning expected from papers at a particular stage within a specific discipline and in keeping with the University guidelines. Additionally, the learning outcomes should progress appropriately between academic levels.
5. THE PRINCIPLE OF ALIGNMENT

An outcomes-based approach to paper design places the students’ expected learning at the centre of the design process, but the outcomes need to be developed in conjunction with the other components of the paper in order to offer the students an integrated learning experience. (They should not be seen and used as institutional obligations which are imposed on a sequence of classes that are based on topics).

Learning outcomes are written at the threshold level, that is, they indicate the minimum level of learning that is hoped for in a particular area. The learning outcomes should be aligned with the assessment tasks and criteria. These help students to develop the required learning as well as evaluate the extent to which students have attained it (for details of the central outcomes-assessment relationship, please refer to the TDU booklets on assessment).

Likewise, the teaching and learning approaches should be designed to help promote the kinds of learning identified in the outcomes and supported through the assessment tasks. Furthermore, as with everything in our teaching, we need to reflect on and evaluate our design in relation to our broader teaching and learning beliefs, feedback, research and our estimation of the quality of the students’ learning. This reflection and evaluation informs the next cycle of paper design.

The principle of alignment was first developed by Biggs (2003) and has become a widely accepted framework for a form of design which aims to offer students a coherent, connected and integrated learning experience.

Note: Additionally, assessment needs to be designed to develop and support student learning.
Moon, J. (2002), Figure 3.1, p.20
Alignment: A Summary

Alignment involves a -

- Coherent and integrated approach to qualification and paper design (qualification attributes help to shape paper outcomes).
- Learning outcomes in a paper shape teaching and learning approaches.
- Learning outcomes in a paper determine assessment.
- Assessment tasks enable students to develop paper learning and competencies.
- Assessment tasks enable students to demonstrate the progress they have made towards attaining the learning outcomes.
- Assessment tasks evaluate the progress that students have made towards the attainment of the learning outcomes.
- Learning outcomes shape the development of assessment criteria.
- Feedback on student assessment is given in relation to criteria (and therefore outcomes).
- Marking is guided by the extent to which performance meets criteria (and therefore outcomes).
6. WRITING LEARNING OUTCOMES

Learning outcomes do not exist in a vacuum and there are many factors that need to be taken into account when planning outcomes and the design of a paper. However, it is often easiest to begin by focussing on what you want your students to be able to demonstrate by the end of the paper and then modify and adapt to take account of other pertinent considerations. However, you should at least have potential assessment and teaching and learning approaches in mind as you start to plan outcomes, because both of these elements will help you to evaluate the precision of your outcomes as well as the implications for teaching and learning.

The components of a learning outcome are:

a) A verb to indicate as precisely as possible the nature of the learning expected
b) Object-content area, skill, disposition
c) Context-words to indicate the context, condition(s) or standard of performance required

Adapted from Moon, J. (2002) p.64

Moon (2002) suggests that it is preferable to use the phrase “students will be expected to be able to” because the outcome is an aspiration and there is no guarantee that this learning will occur. Similarly, it is possible that there will also be a number of unplanned learning outcomes.

a. Finding the appropriate verb

This is possibly the most exacting element in a learning outcome, because it helps teachers and learners to clarify the learning that is expected to be demonstrated by the end of the paper. It is also often the most badly written part of a learning outcome and verbs used are sometimes fuzzy and unhelpful, for example: be familiar with, understand, appreciate.

A number of questions can help you to get greater precision and specificity into outcome verbs:

What is the nature of the content and in what ways will I want students to be able to engage with/use/apply it?

For example, if I am teaching a particular period of English Literature, to what degree would I expect students to engage with historical trends in the period?

At what level of the intellectual hierarchy am I expecting students to manage this knowledge/perform this skill/develop this disposition?

Starting with Bloom’s famous taxonomy in the 1950s, many attempts have been made to represent different types of learning and levels of intellectual complexity (for example the SOLO taxonomy developed by Biggs). The revised version of Bloom’s taxonomy can help you to identify the quality of learning that you may be looking for in relation to a particular subject area or skill. Basically, most taxonomies try to represent a range of learning levels such as identification and recognition of knowledge, relating, connecting, analysing, critiquing,
reformulating and creating. Bloom's revised taxonomy provides a clear overview of these levels. One of the challenges of writing learning outcomes is finding the words that capture the nature of the desired learning. The table from Butcher, et al. (2006) gives you some suggestions (see page 15 of this booklet).

\textit{b. Object: the content or skill}

Typically this is where teachers have tended to focus their attention. It is helpful to think of this part as the object which the verb acts upon.

Examples:

- To write a laboratory report
- To critically evaluate three literary theories
- To compare and contrast primary sources and secondary sources about an historical event in the period of the Cold War
- To describe the respiratory system
- To write learning outcomes
- To analyse a management case

\textit{c. Context: the condition, context or level of performance}

Examples:

- To write a laboratory report that is concise, clear and well-presented and which follows the prescribed format.
- To compare and contrast primary and secondary sources about an historical event in the period of the Cold War using two primary and two secondary sources in relation to the same event.
- To describe the respiratory system identifying the main components and the function of each one.
- To write learning outcomes for one paper that you are teaching and indicating the alignment between outcomes and teaching approaches.
- To analyse a management case using a SWOT analysis.
<table>
<thead>
<tr>
<th>Level</th>
<th>Knowledge</th>
<th>Comprehension</th>
<th>Application</th>
<th>Analysis</th>
<th>Synthesis</th>
<th>Evaluation</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Recalls from prior experience</td>
<td>Ability to recall specific information, to describe known ways of dealing with the information, or to enunciate previously learned general principles or theories</td>
<td>Ability to demonstrate one's understanding by translating or paraphrasing, interpreting information or extrapolating from given data in order to determine likely implications or effects</td>
<td>Ability to apply abstract principles to particular and concrete situations</td>
<td>Clarification of a complex situation by breaking it down into its constituent parts, identifying any relationships between the parts and identifying any organisational structure inherent in the original situation or set of information</td>
<td>Judgements about the value of material or methods for a given purpose</td>
</tr>
<tr>
<td></td>
<td>Defines, describes, identifies, lists, matches, names, outlines, recalls, recognises</td>
<td>########################</td>
<td>Classifies, converts, distinguishes between, explains, extends, generalises, paraphrases, predicts, summarises, transforms, translates</td>
<td>Deduces, differentiates, discriminates, distinguishes, estimates, experiments, identifies, infers, orders, separates, subdivides</td>
<td>Combines, compiles, composes, constructs, creates, designs, formulates, generates, hypothesises, manages, rearranges, relates, revises, summarises</td>
<td>Appraises, assesses, compares, concludes, contrasts, criticises, discriminates, evaluates, judges, justifies, revises, supports</td>
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Source: unknown

Butcher et al Table 3.2, Hierarchy of Intellectual Demand (2006)
Remembering: can the student recall or remember the information?
define, duplicate, list, memorize, recall, repeat, reproduce state

Understanding: can the student explain ideas or concepts?
classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase

Applying: can the student use the information in a new way?
choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write.

Analyzing: can the student distinguish between the different parts?
appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.

Evaluating: can the student justify a stand or decision?
appraise, argue, defend, judge, select, support, value, evaluate

Creating: can the student create new product or point of view?
assemble, construct, create, design, develop, formulate, write.

http://cdn.pearltrees.com/s/pic/th/bloom-taxonomy-43626718
Once you have drafted the learning outcomes and included the three basic components, you will need to address a range of other factors that could have bearing on your outcomes and your overall course design. Here are some questions that can help you evaluate and refine your learning outcomes and overall paper (course) design:

**Is there a relationship between my goals and the graduate attributes for the degree?**

Graduate attributes often include skills/dispositions/competencies in relation to a particular discipline or field of knowledge. For example, many programmes include research skills as an expected outcome. Paper convenors from level 1 onwards should be asking themselves how their particular paper contributes to the development of these skills.

**What level are the students and what is possible at this level?**

This is an important question in relation to the choice of verbs for learning outcomes and needs to be considered in conjunction with levels of learning complexity. While many paper planners tend to focus on the content that is appropriate for a particular level, it is just as important to consider the nature of the learning as indicated by the choice of verb. For example, many paper outlines include critical and evaluative competencies in their learning outcomes. If these competencies are a goal of a degree, then lecturers have a responsibility to begin developing them from the first year. At the same time, research indicates that it takes a very long time for learners to move away from absolute conceptions of knowledge, so expectations of what is possible at first year need to take this into account. Furthermore, teaching, learning and assessment approaches need to be planned that can help students to practise and develop these competencies.

In the United Kingdom, an attempt has been made to identify the nature of the learning that is commensurate with different academic levels. We do not have equivalent guidelines in New Zealand, although the University of Waikato does have some very broad guidelines on this (see Appendix on page 32 of this booklet).

It is helpful to see what is expected in other programmes at the same level in your discipline or in subjects that students commonly take in tandem with yours. Traditionally first year papers have introduced students to the broad terrain of a discipline.

However, sometimes this is just about content. It also needs to be about introducing students to using the language and modes of inquiry that are unique to the discipline.

**What prior experiences are the students likely to have had in relation to this competency and topic/skill?**

This is a difficult question as we cannot predict the range of backgrounds and learning experiences of students who will do the paper. At second and third year levels and where papers have prerequisites, it is a little easier to ascertain prior learning. However, even if students have dealt with a particular topic, there are no guarantees about the way they may have engaged with it previously.

It is therefore a good idea to build in some simple diagnostic exercises early in the paper so that you can be responsive to your students. Remember that if you overload the content, this
kind of flexibility is not possible

Would it be possible to set assessment tasks that are well aligned with this competency in relation to this topic/skill?

The thinking about possible assessment tasks should happen in conjunction with the development of learning outcomes. Outcomes are only viable if you can find assessment that helps students to acquire them and eventually demonstrate the extent to which they have been attained. For example, if you want students to be able to apply their learning in an authentic context, you need to be sure that you can design and implement assessment tasks to match this goal.

Can I provide teaching and learning approaches that are consistent with the kinds of learning that I want and have identified in the learning outcomes?

As you think about the kinds of learning that you want your students to develop, you also need to envisage the character of the teaching and learning spaces and modes that are most likely to help promote this kind of learning. For example, if learning to discuss ideas collaboratively is a desired outcome, then you need to reflect on possible teaching, learning and assessment approaches that can help students practise and develop this skill.

How much time do I have and what can be done within the limits of the given time period?

The most common error made by academics across all disciplines is to try and cover too much content. If you want to promote genuine engagement with course learning, limit the volume of material. Instead extend the amount and range of opportunities for students to interact with the material. This can include looking at material from different theoretical perspectives, setting up discussion opportunities in class and on-line and devising applications or problems.

When considering the amount of content, be sure to build in enough time to get feedback from students on their learning on a regular basis. This enables you to create a dialogical learning environment and adapt your teaching where appropriate. The learning process is iterative rather than linear so it’s a good idea to provide opportunities for students to revisit the content in different ways.

What resources are available?

There are numerous considerations here. These include the availability of support staff for small group teaching and administrative support for the provision of materials. It is also important to check on the availability of appropriate reading materials.

What timetabling constraints are there?

There are a number of pertinent matters here. These include details about the spacing of the lecture periods, the sequence and spacing of tutorials and the rooms that are allocated to the paper.

What is the workload for me and for the students?

Be realistic. Many ambitious outcomes flounder because the teacher is unable to provide the
appropriate feedback and support. Be creative in this respect and consider other strategies for students getting prompt feedback on their learning such as online tests and peer feedback.

A related concern is to check whether there are people to help with tutoring and marking as this will influence what is possible.

It is also important to consider the students’ workload. For example, limit the volume of reading or prioritise the recommended readings.

*Are there any requirements set by professional bodies or expectations of external stakeholders to consider?*

This question is particularly pertinent in disciplines such as Management, Education, Law and Accounting.

*Are the outcomes consistent with future career paths and is the learning sustainable?*
**Examples of Learning Outcomes**

I. **Level 1 English**  
Students will be expected to be able analyse a passage from a literary text closely and make links between the extract and the rest of the text.

II. **Level 3 English**  
Students will be expected to be able to identify the main features of the historical context in which a text is set and demonstrate the way in which this context influences the particular text.

III. **Level 1 Law**  
Students will be expected to demonstrate elementary skills of legal analysis in the context of an introduction to New Zealand law using simple and accessible cases.

IV. **Level 1 Intro to Chemistry module**  
Students will be expected to be able to write a concise, clear and tidy report of a laboratory practical that must be laid out in the prescribed format.

V. **Level 1 History**  
Students will be expected to be able to demonstrate that they can perform basic historical research tasks including locating appropriate resources, identifying the pertinence of a particular resource for a research question and organizing evidence to support or oppose a particular position.

VI. **Introductory French**  
Students will be expected to be able to converse at an elementary level about everyday topics such as food, weather, clothing, directions and holidays.

VII. **Level 3 Managing Conflict and Consensus**  
Students will be expected to be able to resolve problem scenarios using key course concepts such as conflict styles, power, climate and face.
Examples of learning outcomes

Example 3: level 3 English literature

At the end of the module, the learner is expected to be able to:

- demonstrate detailed understanding of the influences of the historical and social context within which the chosen text is set, both from the study of the text itself and from the study of other contemporary literature.

(Comment: this learning outcome could mention the text by name, but by focusing on the skills to be acquired, one avoids being tied to the same text in the future. In addition, the learning outcome is about learning in more general terms than the specific text.)

Example 4: level 2 physics

At the end of the module, the learner is expected to be able to:

- perform correctly calculations on wave functions and in the solution of the Schroedinger equation for a range of one-dimensional problems.

Example 9: use of a learning outcome to alert students to potential plagiarism (based on Gosling and Moon, 2001) – could be in any discipline, level 1

At the end of the period of learning, it is intended that the student will be able to discuss how plagiarism can occur intentionally or unintentionally in academic work, and identify ways of avoiding it through appropriate referencing.

Example 10: Master’s level, social policy

At the end of the module, learners will be expected to be able to describe the historical development of social policy and judge the value of key developments in health care from the perspective of social policy.
Example 13: level 1 skills in physics

At the end of the module, students will be able to demonstrate effective grasp of a range of communication skills that will underpin their further studies in physics. These will include maintenance of a physics notebook, preparation of a CV, the ability to read an academic article and discuss it in a brief presentation.

(Comment: it could be argued that example 13 represents more than one learning outcome. By having all the communication skills in one outcome, the implication is that a student failing one part, fails the whole learning outcome. It can be assumed that there will be other learning outcomes for this module, that also represent a number of small tasks.)

Example 14: level 1 introduction to chemistry module

At the end of the module, it is intended that the student will be able to write a concise, clear and tidy report of a laboratory practical that must be laid out in the prescribed format.

Example 15: level 1 introduction to acting/drama programme

At the end of the module, the student will be expected to be able to work with others in small task-orientated groups, participating and interacting in the group in a productive manner for him/herself and for the group as a whole.
8. LEARNING OUTCOMES: SOME ISSUES

The outcomes-based approach to course design grew out of the work of behavioural psychologists in the early 20th century. Many educationalists felt uncomfortable with the earliest versions of learning objectives because they were seen as mechanistic and unable to capture the complexity of higher order thinking.

The notion of outcomes has been considerably refined since these early days to incorporate much more abstract forms of learning and it is generally acknowledged there are aspects of learning that cannot be anticipated or planned for and which are impossible to articulate exactly. Bearing these reservations in mind there a number of benefits of using learning outcomes.

**Benefits of Learning Outcomes:**
- The use of learning outcomes shifts the focus to the potential learning of the student as opposed to the behaviours of the lecturer.
- Learning outcomes provide a systematic framework for focussing and structuring teaching and assessment.
- Learning outcomes provide a statement of course goals that can be shared by lecturer and students.
- Learning outcomes provide a basis for developing assessment tasks and criteria.

**Cautions:**
- Much learning is unpredictable and unplanned for and cannot be controlled by outcomes.
- Outcomes should not be too rigid so that teachers can still be critically responsive to the dynamics of the classroom and the needs of students.
- It is difficult to capture all forms of learning in precise language.
- Outcomes indicate desired learning, but there are no guarantees that it will take place.
9. ALIGNING LEARNING OUTCOMES: CONTENT AND TEACHING APPROACHES

Planning your assessment in line with your learning outcomes
The design process is cyclical rather than linear, so that as you write and refine the learning outcomes, you need to be thinking simultaneously about the implications for assessment tasks and for your teaching content and strategies. A detailed guide to the process of aligning outcomes and assessment is provided in the booklet on assessment. The following general principles need to be borne in mind:

- Be sure that the assessment task genuinely corresponds to the learning outcome.
- Provide formative as well as summative assessment tasks so that students have a chance to practice the learning required.
- Use teaching approaches that encourage the thinking and skills required for assessment.
- You do not need to assess all learning outcomes.
- Use the learning outcomes as a baseline guide for developing your assessment criteria.

Matching teaching content and processes to your learning outcomes
Your learning outcomes provide the scaffolding for building your course. If you clarify these first, you will be less obsessed by the need to cover the terrain. One technique is to draw a grid with the learning outcomes on one axis and the classes on the other. You can then identify how particular classes contribute to different learning outcomes. This can be shared with the students – it is an effective way of helping them to get a sense of the underlying coherence of a course and see how the different elements contribute to the whole. It is also a good strategy for reminding students of certain core questions, themes and concepts that the course is addressing.

MATCHING YOUR CONTENT TO OUTCOMES

<table>
<thead>
<tr>
<th>TABLE 4.3 Outcomes–content matrix</th>
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<tbody>
<tr>
<td>Subject content</td>
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<td>f</td>
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</tbody>
</table>

Butcher et al
Table 4.3 (2006)
p. 64
As I want to focus on the development of these process skills and their recognition of a key theme and two narrative devices, I want to limit the number of texts that we use.

Over a period of 12 to 13 weeks, I have decided to limit the course to four texts. This gives us approximately three weeks to explore each text and develop the relevant process skills as well as include some comparative discussion. I will also be deciding on teaching approaches – I will, for example, incorporate plenty of in-class writing on text so as to help the students develop this skill and at the same time highlight central pre-occupations (theme and narrative method).

Small group work will involve considerable student input, such as a prepared synthesis of how a critic has discussed a particular book and a comment about whether they agree or disagree with the critic. Some of these teaching and learning exercises can form part of the course assessment.

Getting the course together takes considerable time and energy and even then, you often need to run a course at least once to have the raw materials to refine and develop on each subsequent occasion that you teach it.
REFERENCES


Guidelines for Determining Academic Level (Undergraduate)

*General*
This document is intended as a guideline. Subject diversity may result in some variation.

**100 Level**

100 Level papers are normally introductory, exposing students to the scope of the topic and its terminology and preparing them to proceed in the subject or in related subject areas. In broadly-based subjects, papers are often primarily descriptive. In many subjects or disciplines, they introduce the fundamental theories on which the discipline is based. More simple analytical techniques or methods employed in the discipline may be covered. Teaching and assessment is more controlled and directed by the instructor than at higher levels and is largely formal and structured.

Information sources are normally limited, for example, to course notes and one or two texts or references. Student choice of topics and assessment is usually limited.

Students are expected to recall and comprehend material and to begin analysis of simple subject matter.

**200 Level**

200 level papers normally develop the theory and methodology of the topic of subject as a
framework for later synthesis and evaluation of material. They generally use a wider range of information sources than at 100 level and have a greater expectation of student participation both in timetables classes and through reading of current literature and project work.

Students may be given exposure to a wider range of topics and/or assessment, but formal methods of teaching and assessment are likely to predominate.

Students are expected to demonstrate comprehension of underlying theories and basic methods within the subject or discipline. Skills in analysis are development more fully. Students may be expected to begin some synthesis of concepts and/or techniques from different aspects of the subject area and different sources.

300 Level
300 level papers rely less on formal teaching and assessment and require greater student participation both in timetables classes and through seminars and workshops. More self-directed learning is expected. A greater diversity of information sources is used and students are likely to be given exposure to a wider range of topics and assessment.

Students are expected to demonstrate independent thought and increasing skills in analysis, synthesis and evaluation of complex subject matter.
400 Level

Not all qualifications include 400 level papers. In qualifications for which they are included, 400 level papers usually have a greater emphasis on critical thinking regarding the theories and models of the subject areas and students are expected to be more self-directed in their learning than in 300 level papers.

400 level papers offer wide scope for students to develop an area of academic and/or professional specialisation or practical experience. In some cases, the papers may involve individual supervision and assessment arrangements rather than structure lectures and formal examinations.

Students are normally expected to participate actively in seminars and workshops, and to demonstrate and ability to analyse, synthesise and critique information, develop and express both qualitative and quantitative judgements, and apply facts and information to practical and professional situations.


Please contact the Academic Services (extn 5099) if you require more information.
Make a space at your place
for teaching.