

Blended Learning @ JCU

A guide for staff

V 1.0

Cairns
Singapore
Townsville

PREFACE

Welcome to our Blended Learning @ JCU: A Guide for Staff eBook!

This eBook is a collaborative development by staff from Learning, Teaching and Student Engagement (LTSE). It is intended for use by academic staff involved in designing or redesigning JCU subjects to integrate technology into your learning and teaching practice. Nelson Mandela said 'Education is the most powerful weapon we can use to change the world' and higher education promotes opportunities for new generations of learners. Technology is the wave of the future and affords education new opportunities for communication, personalized learning, sharing discipline knowledge and research, creativity and engaging students in a global environment. Our challenge as educators is to harness the best of these opportunities in designing our blended curriculum.

The Guide has been structured around the notion of engaging in a systematic process of planning, designing, implementing, reviewing and improving; good practice for any curriculum design endeavor. Guidance is provided for each stage of the process with links to online resources, help guides, and further reading. Further support from LTSE can be accessed via our [webpage](#). We also encourage you to talk to colleagues, share your own ideas and experiences, and learn from each other; after all, that is what we encourage our students to do.

We hope you find this guide helpful.

NAVIGATION

This eBook has been designed as a living document where additional chapters are added in response to the needs of staff and students. Please check the [Learning, Teaching and Student Engagement website](#) for version updates.

This is version 1.0 of this document - Released October 2015

If you are viewing the PDF version of this document the following icons will help to identify and access certain interactive elements:



This icon signifies a video



This icon signifies a policy document



This icon signifies web links

CHAPTER 1

BLENDED LEARNING

AN APPROACH TO CURRICULUM

OVERVIEW

1.1 [Definition](#)

1.2 [Blending for Purpose](#)

1.3 [Standards](#)

DEFINITION

WHAT IS BLENDED LEARNING?

The James Cook University Plan 2013-2017 sets out an institution wide curriculum vision aligned to a blended learning approach. Blended learning refers to the purposeful combination of face-to-face and online activities designed to optimise student engagement and the achievement of learning outcomes. The design of the blend will vary according to intended outcomes, student needs, context, discipline, mode of delivery and whole-of-course considerations.

Blended subjects may be offered in internal, limited, block or placement/work experience modes. Subjects may also be offered fully online in external mode.

JCU BLENDED LEARNING POLICY DEFINITION:

PLANNED

"Blended learning - refers to learning design that strategically, systematically and effectively...

RANGE OF MODES AND TOOLS

...integrates a range of face-to-face, online, mobile, distance, open, social and other technology enhanced learning across physical and virtual environments,

ABOUT STUDENTS

...as informed and driven by student needs and support for desired learning activities and learning outcomes."



http://www.jcu.edu.au/policy/allatoh/JCU_140716.html



WHAT DOES THE RESEARCH SAY ABOUT BLENDED LEARNING?

Consider these perspectives:



- [Blended Learning Good Practice Report](#) (Partridge, Ponting and McCay, 2011)
- [Technology-enhanced learning and teaching Good Practice Report](#) (Keppell, Suddaby and Hard, 2011)
- [Blended course design: A synthesis of best practices](#) (McGee and Reis, 2012)
- [Blended Learning: Research Perspectives](#) (Picciano, Dziuban, and Graham (Eds), 2014).

WHY BLEND?

Blended learning provides more flexibility for students and the opportunity to provide more engaging learning activities.



According to the [Learning and Teaching Blueprint 2014 - 2016](#)

... we acknowledge that face-to-face and on-campus delivery ...will remain an important aspect of the JCU student experience.

... All learning however, will be increasingly enabled by online affordances and we need to engage robustly with blended learning designs that improve the student experience and build connections between staff and students and across student groups.

BLENDLED LEARNING DESIGN CAN:

- Broaden the spaces and opportunities available for learning
- Support subject management activities (eg. communication, submission of assessment, marking and feedback)
- Support the provision of information and resources to students
- Engage and motivate students through interactivity and collaboration
- Make use of online experiences for synchronous and asynchronous learning activities

It is not about using the technology because it is available; it is about finding better ways to support student achievement of learning outcomes and providing them with the best possible learning and teaching experiences, as well as supporting teachers. The integration of blended learning will vary greatly depending on your subject context.

DEEP LEARNING:

The overarching findings of the research suggest that blended learning approaches promote 'deep learning'.

In a deep approach, the underlying intent is learning for understanding, not just the facts.

This is characterised by:

- Interacting vigorously and critically with content
- focusing on the overall meaning or message
- relating new ideas to previous knowledge and experience to make meaning
- reading and studying beyond course requirements
- questioning of conclusions
- using evidence and logic to reach conclusions
- intrinsic motivation
- being able to reflect on one's own learning
- positive and supportive learning environments that allow students to explore new concepts meaningfully.

To promote a deep approach, we need to reflect on what the teacher does and what the student does.

THEORIES OF TEACHING:

We acknowledge that learning and teaching is situated within your disciplinary field. It is useful to draw on what effective teaching looks like according to the literature, and draw parallels for your discipline and the scholarship in your field.

Paul Ramsden (2003), a leader in the Australian Higher Education field, suggests three theories of teaching that are useful ways to consider how higher education teachers perceive their role in and the implications for how students learn.

1: TEACHING AS TELLING OR TRANSMISSION

2: TEACHING AS ORGANISING STUDENTS' ACTIVITY

3: TEACHING AS MAKING LEARNING POSSIBLE

In the third model of teaching, teaching is conceptualised in terms of the process of supporting student learning. Students explore and apply content in collaboration with expert teachers from their discipline. Teachers address student misunderstandings and create the context for learning.

Ramsden, P. (2003). Learning to teach in higher education. London;New York : RoutledgeFalmer.

BLENDING FOR PURPOSE

All three theories can interact within and throughout the teaching of a subject.

- How do you see your role as a teacher in the subject you teach?
- What activities should students engage in?

Blended learning must be purposeful. Think about what you need or want to blend. Consider the following points:

- Does your blend enable, enhance or transform learning for students?
- Is your blend designed to clarify confusing, boring or fundamental concepts (threshold concepts) in your subject?
- Can you use LearnJCU more effectively to engage, support or extend your students?



[This video presents some ideas on blended learning design](#)

STANDARDS FOR BLENDED AND ONLINE SUBJECT DESIGN

The JCU Standards for Blended and Online Subject Design were developed in 2015 to be used to guide subject design and as a reflection tool to assure quality. They set a Threshold level at which all students are provided with a purposefully designed curriculum, opportunities for interaction with peers and staff, and appropriate and explicit support. A Glossary is provided to clarify terms. Standards for Blended and Online Subject Design apply regardless of mode of delivery.

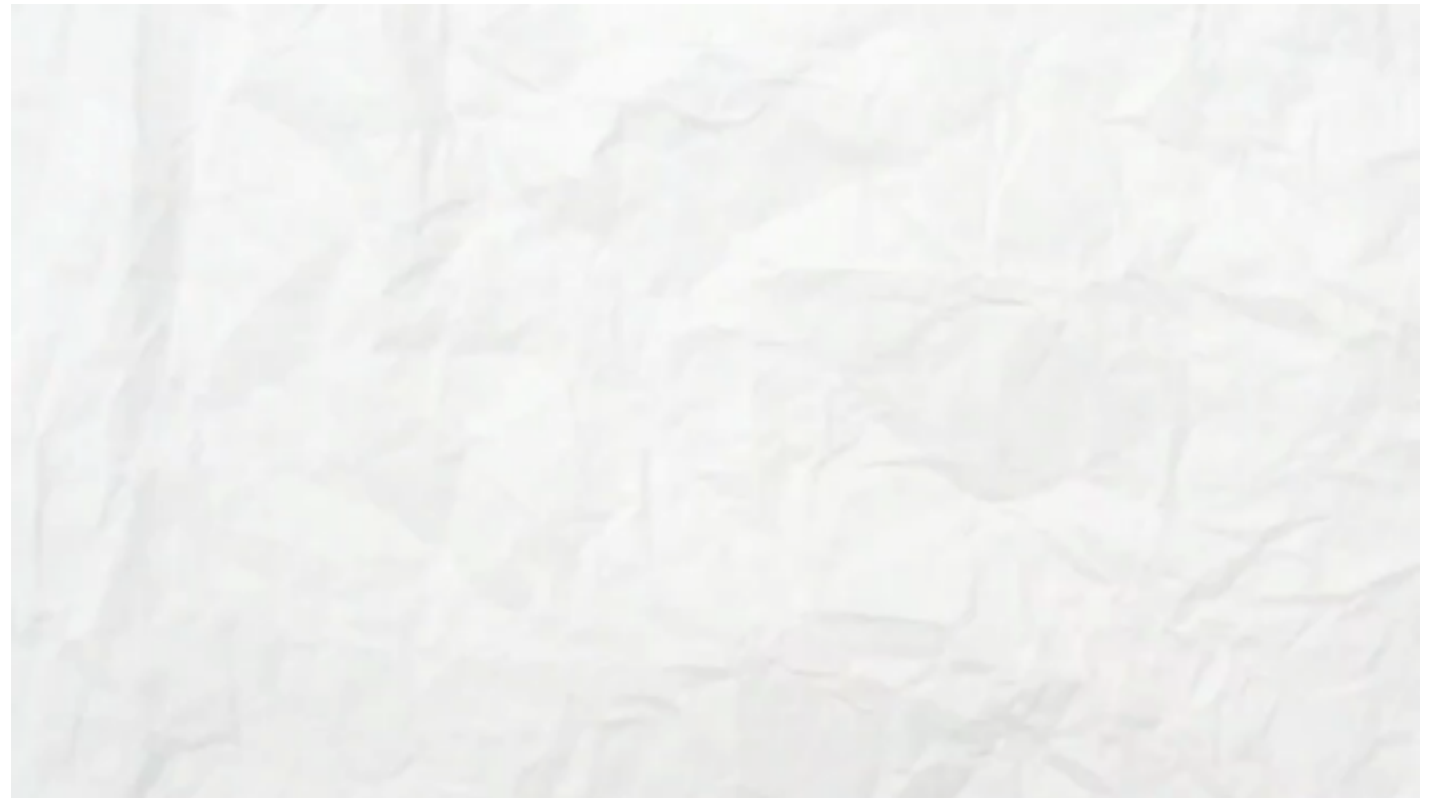
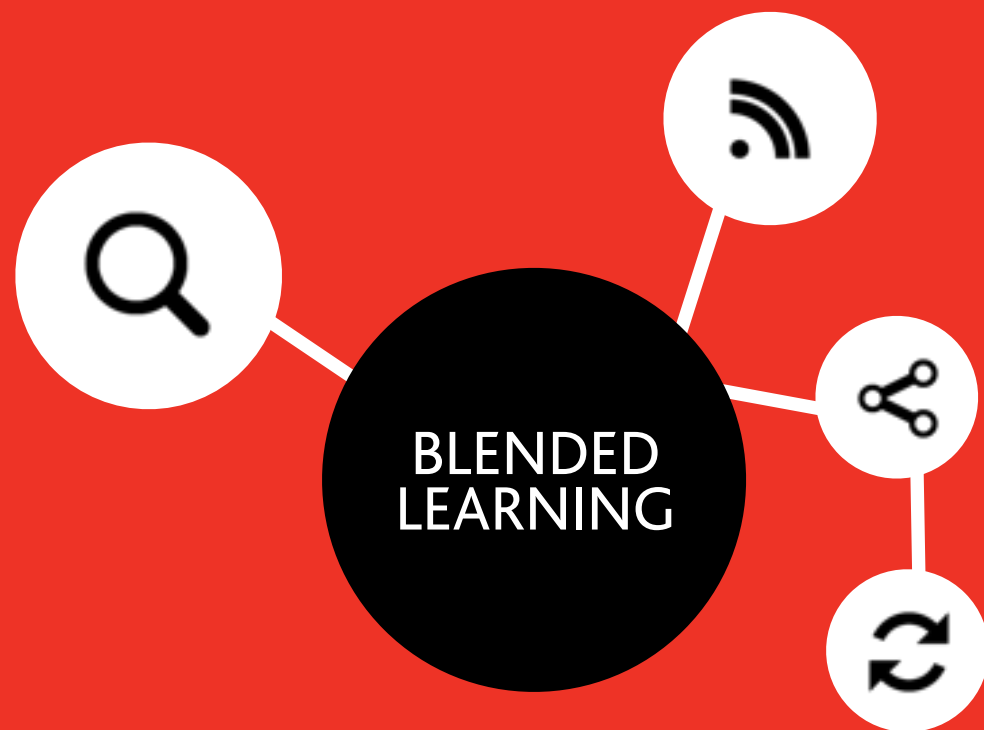


Take some time before you commence planning to review the JCU [Learning, Teaching and Assessment Policy](#) and the [Blended Learning Policy](#).

- 1 Curriculum and learning materials are aligned, available and engaging
- 2 Assessment tasks are aligned, available and engaging, including formative assessment
- 3 Students are provided with opportunities to interact with peers
- 4 Students are provided with opportunities to interact with staff
- 5 Students are provided with appropriate learning support
- 6 Students are supported in their use of educational technology
- 7 Students are supported in their understanding of career choice
- 8 Students are directed to support services

STANDARDS

This video shows how each Standard has been elaborated with indicative indicators at Threshold and Desirable levels. It also establishes the minimum expectations required to support students in the first year of their degree.



This video provides further elaboration on the JCU Standards for blended and online subject design

CHAPTER 2

LEARNING DESIGN

OVERVIEW

2.1 [The Design Process](#)

2.2 [Planning](#)

2.3 [Designing](#)

2.4 [Implementing](#)

2.5 [Reviewing](#)

2.6 [Improving](#)

THE DESIGN PROCESS



Taking a deliberate approach to the design of technology-enhanced learning experiences is crucial for the success of blended learning. The JCU Learning, Teaching and Assessment Policy states that approaches to teaching are varied and adaptive to new demands in learning and will include effective use of appropriate technologies and innovation.

We agree with [Thompson \(2015\)](#) that “a definitive statement of what constitutes the best combination of online and face-to-face learning experiences is impossible”.

However, quality blended learning design does exhibit the following features:

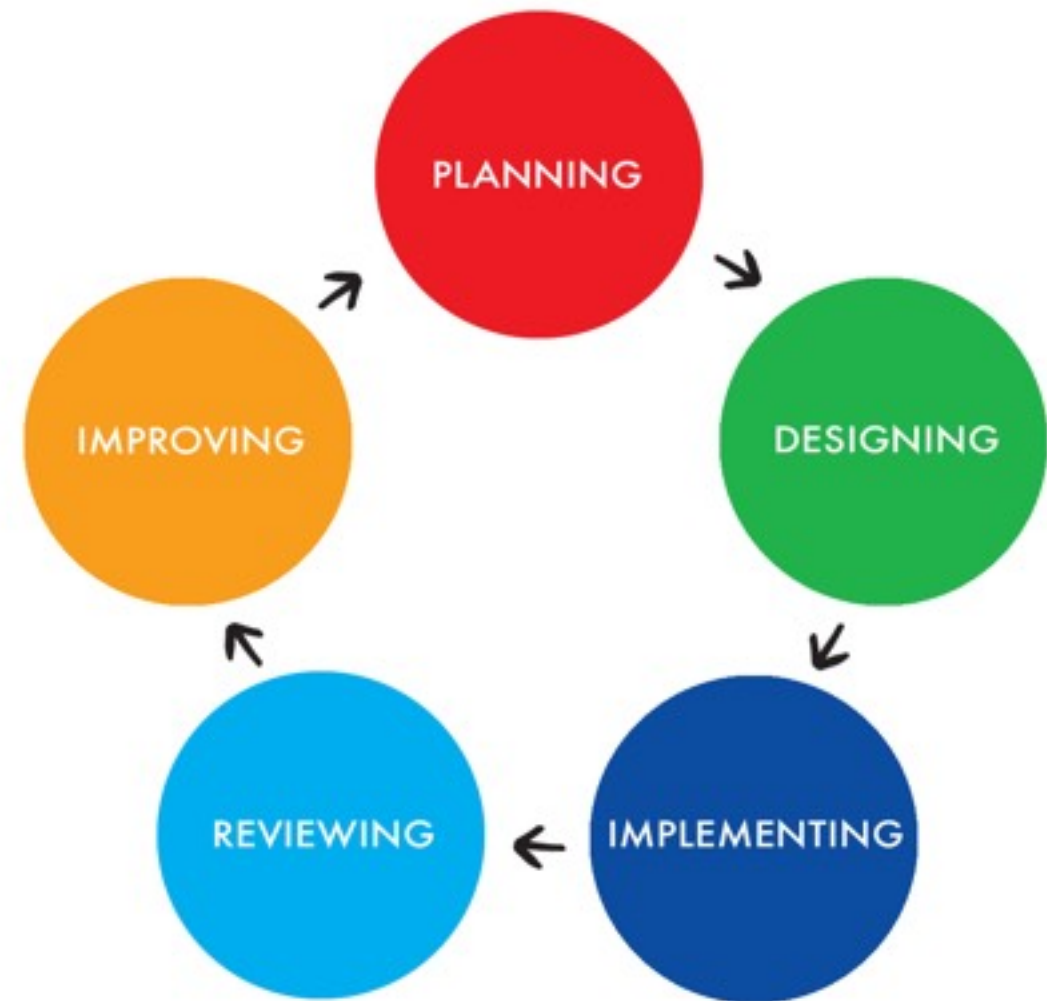
- It is participative, not just interactive (Wild, 2007)
- The processes of cognition and collaboration are enhanced through students being actively engaged in their own learning.
- Thinking and working together create learning (Allen, 2010 cited in Griffith University, 2010, p. 7)

Good preparation and decision making is essential not only for efficient use of your time, but also the creation of quality learning experiences for your students. The learning design cycle provides a design process for developing the best possible blend for students in your discipline.



THE PROCESS EXPLAINED

The learning design cycle is situated in a framework of continuous improvement and includes the following phases: Planning, Designing, Implementing, Reviewing and Improving. This framework recognises that 'Students are at the heart of our University' (Core Principle 1, Learning, Teaching and Assessment Policy) so promotes a learner-oriented approach. The Blended Learning Design Cycle is intended to guide academics at each stage of the process. The phases of the cycle are explored in more detail to assist with this process.



PLANNING

1 PROFILE YOUR LEARNERS

It is important to know your students so you design the most appropriate blend to support their learning. Refer to [COGNOS®](#) statistics for demographic data on your students. Consider the year level of the subject you are designing and how this impacts on issues such as the digital literacy of your students. The use of survey or readiness tools to diagnose students' learning technology access and familiarity with the use of core technologies will provide useful background. If there are disparities in students' access to internet services, how will this influence your blend? Can you adapt material for students with disabilities? Do they have support to engage with ICT and Blended Learning? The size of your cohort is another important consideration in designing your blend.

2

REVIEW THE SUBJECT LEARNING OUTCOMES

Consider what your learners are expected to achieve and to what standard. What skills/knowledge/attitudes (outcomes) will they demonstrate? How will they demonstrate their learning (assessment)? What teaching and learning activities support the achievement of learning outcomes? Do the activities and demonstration align?

Points to consider:

Learning outcomes should be written so that they imply the knowledge that a student needs to demonstrate in their application of it.

For example:

- List the steps for administering a drug through an indwelling catheter.
- Administer a drug through an indwelling catheter.

In the second example the student is applying their knowledge of the steps involved in administering the drug. In the application of their knowledge to a task (higher order) they are demonstrating their (lower order) knowledge.

What do you want the students to know? How is this distinct from the 'nice' to know or opportunities for a student with a particular interest to extend their knowledge? When you focus on what the students need to know and its relationship with the assessment planning becomes a lot easier.

APPLYING BLOOM'S TAXONOMY TO LEARNING OUTCOMES

Effective learning outcomes need to be observable and/or measureable, and using action verbs is a way to achieve this. Verbs such as "identify", "argue," or "construct" are more measureable than vague or passive verbs such as "understand" or "be aware of". As you develop your syllabus focus on articulating clear learning outcomes and then use these outcomes to guide assessment design.

Sample Learning Outcomes for a first year level subject:

After completing Nutrition 101 Humans and Food, students will be able to:

- Identify nutrients found in common food sources via the product's nutrition label
- Use computer dietary analysis to assess a 2-day dietary intake and summarize results
- Locate nutrition-related information on the Internet and use evaluative criteria to identify reliability of the information.

In 1956, Benjamin Bloom with collaborators Max Englehart, Edward Furst, Walter Hill, and David Krathwohl published a framework for categorizing educational goals: Taxonomy of Educational Objectives. The framework is commonly referred to as [Bloom's Taxonomy](#) and illustrates the development of higher-order thinking skills. The following table provides a list of active verbs based on Bloom's Taxonomy.

Active verbs developed based on Bloom's Taxonomy

Knowledge	Understand	Apply	Analyze	Evaluate	Create
define identify describe label list name state match recognize select examine locate memorize quote recall reproduce tabulate tell copy discover duplicate enumerate	explain describe interpret paraphrase summarize classify compare differentiate discuss distinguish extend predict associate contrast convert demonstrate estimate express Identify indicate Infer relate	solve apply illustrate modify use calculate change choose demonstrate discover experiment relate show sketch complete construct dramatize interpret Manipulate Paint Prepare produce	analyze compare classify contrast distinguish infer separate explain select categorize connect differentiate discriminate divide order point out prioritize subdivide survey advertise appraise Break down	reframe criticize evaluate order appraise judge support compare decide discriminate recommend summarize assess choose convince defend estimate find errors grade measure predict rank	design compose create plan combine formulate invent hypothesize substitute write compile construct develop generalize integrate modify organize prepare produce rearrange rewrite role-play





DETERMINE WHAT ASSESSMENT WILL ALLOW STUDENTS TO DEMONSTRATE LEARNING

Begin with the end in mind

The focus now is on how you are going to assess what students have learned. Starting with the end in mind, before you plan your program, means that you get a very strong handle on what you are designing to achieve, the directions you need to take and the destination.

Assessment can be contentious but do your best to think differently about it. From experience if you start creatively with assessment, designing uncommon, non-traditional approaches for learning come a little easier.

Learning outcomes as specified in your Subject Outline.

Focus on exploring how you will assess the learning outcomes.

Consider these questions:

1. Which tasks offer best opportunities for feedback?
2. How can you encourage peer feedback?
3. What technologies enable more effective and efficient ways to provide feedback?
4. How can you exploit the benefits of digitalized assessment?
5. How will your learning outcomes be assured?
6. How will you provide student feedback?

Adapted from Salmon, 2015

USEFUL LINKS TO ADDITIONAL INFORMATION ON ASSESSMENT



- [eAssessment](#) (JISC)
- [Teacher's Handbook on eAssessment](#) (Crisp)
- [Assessment 'dialogue'](#) (ASKe Oxford Brookes UK)
- [How to use feedback](#) (ASKe Oxford Brookes UK)
- [12 principles about good assessment and feedback](#) (Strathclyde Uni UK)
- [Online assessment design](#) (Canberra Uni)
- [Examples of online assessment design](#) (LaTrobe Uni)
- [Virtual practicals](#) (Uni of Reading UK)
- Example of [online posters](#)
- [Simulations as assessment](#) (Deakin Uni)

4

CONSIDER AVAILABLE DATA ON THE CURRENT STUDENT EXPERIENCE

Review the feedback that has been gathered about this subject to see if there are consistent learning issues. Make a start by disrupting current ways of doing.

Consider how a purposeful blend can:

- Clarify confusing concepts within your subject
- Present fundamental concepts
- Invigorate potentially dull aspects of your subject



COGNOS® is JCU's self serve database for course and subject information via staff home page.

Major Tab	Minor Tab	Search by:	Data Contained
A. Student	A1 Enrol View		JCU level stats on enrolments, load, semester, retention, Field of Education (FOE), campus.
A. Student	A2 Course Trends	Course	6 year trends on Course #s, fee type, years level, mode, campus, retention, semester.
A. Student	A3 Course Demographics	Course	6 year trends on Course Demographics by student age, gender, NESB, postcode, state & country of origin, Indigenous, SES, Disability.
A. Student	A4 Retention	Course	6 year trends on Course Retention by age, SES, Indigenous, gender, Disability, campus, NESB, * important table on course versus faculty versus university retention
A. Student	A5 Subject Trends	Subject	6 year trends on Subject enrolments by semester, campus, mode, fee type, grades, course.
A. Student	A6 Subject Demographics	Subject	6 year trends on Subject enrolments by age, OP score, SES, gender, state/country of origin, NESB, Indigenous, Disability, FIF (first in family).
B. Admissions	B1 QTAC JCU B2 QTAC All Institutions B3 QTAC School	Course / School	1. QTAC (QLD tertiary entrance information) for JCU and for individual JCU courses. 2. Applications – Offers – Acceptance – Enrolments stats and ratios 3. Identify which schools students come from to JCU courses
Report List	1. Analytics for Subject Success 2. Course Majors 3. Course Progression 4. EFTSL by Disciplines 5. Subject Enrol to Census to Success 6. JCU Course Performance Report (last on list)	Subject Course Course Course Subject	1. Shows pass/fail rates for students by same demographics as A6 tab, OP versus grades also 2. Student success in course majors 3. Student progression statistics and transfer destination from 1 specific year to next 4. Load data by course 5. Important early retention / attrition data from enrolment to census date, what is called "bleed rate of attrition" (especially important for first semester first year subjects) 6. Course Performance Report gives last 3 years of all major metrics for a course with flagging of major and minor performance issues. Search by course code (not name)



COGNOS® Help Guides: <https://www.jcu.edu.au/planning-and-performance/cognos-business-intelligence>

DESIGNING

1 DEVELOP A SUBJECT VISION

This stage is about visioning your subject. Imagine how would like your subject to look, feel and sound.

What is the essence of the student experience?

Consider creating a **poster** which outlines the design and outcomes of the subject. Ask yourself:

What is our mission...

The idea of developing a mission is that it is a blend of aspiration and realism.

What do you imagine the subject to be....

In ten years' time someone rushes up to you at a conference and says:

"Oh! Hello! I remember your subject on XXX. It set me on a fantastic path to the future because XXX".



Look and Feel

textured, classy, trendy	post-modern	elite
professional	controversial	participative
simple	pleasant	eye catching
bright	fun	accessible
relevant	daring	playful
compact	decisive	creative
smart	energetic	light
efficient	flashy	modern
fiery	basic	current
strong	blended	incisive
challenging	dynamic	mobile
engaging	demanding	global
reflective	edgy	enabling
clear	enticing	bland
contextualised	can-do	forward-looking
grand	unusual	flexible
managerial	purposeful	pacey
provocative	Add your own	Add your own

Choose the adjectives that best describe the look and feel you would like for your unit, course or program. Think what you would like participants to say about their learning experience after its complete? You may want to add some adjectives of your own. Can you agree on 3 or 4 of them? Put the words on your poster under the mission statement.

The 'spirit' of our subject...

Draw or find a picture that you feel represents the 'spirit' of the subject.

Add it to your poster.

Try extracting the key words and writing it up in a sentence or two. If there is a group of you working on one subject collaborate until there is some agreement.

If at this point your description is not aspirational enough try asking:

- What is your dream for this subject?
- What's the heart and soul of what you're teaching?
- How will students experience 'the difference' after completing your subject?

JCU Graduate Attributes Statement

In 2013 James Cook University's Academic Board approved the [Graduate Attributes Statement](#) and Guidance Points for undergraduate and postgraduate coursework degrees at James Cook University. The focus of the statement is on the distinctive JCU experience.

The graduates of James Cook University are prepared and equipped to create a brighter future for life in the tropics world-wide.

JCU graduates are committed to lifelong learning, intellectual development, and to the display of exemplary personal, professional and ethical standards. They have a sense of their place in the tropics and are charged with professional, community, and environmental responsibility. JCU graduates appreciate the need to embrace and be acquainted with the Aboriginal and Torres Strait Islander Peoples of Australia. They are committed to reconciliation, diversity and sustainability. They exhibit a willingness to lead and to contribute to the intellectual, environmental, cultural, economic and social challenges of regional, national, and international communities of the tropics.

The distinctive JCU experience

The six principles of the JCU model provide a guide to a distinctive JCU experience. Look at the [diagram](#) on the following page and consider how you can incorporate some aspects of the six principles of the JCU model in your subject.

Put your ideas on your poster.



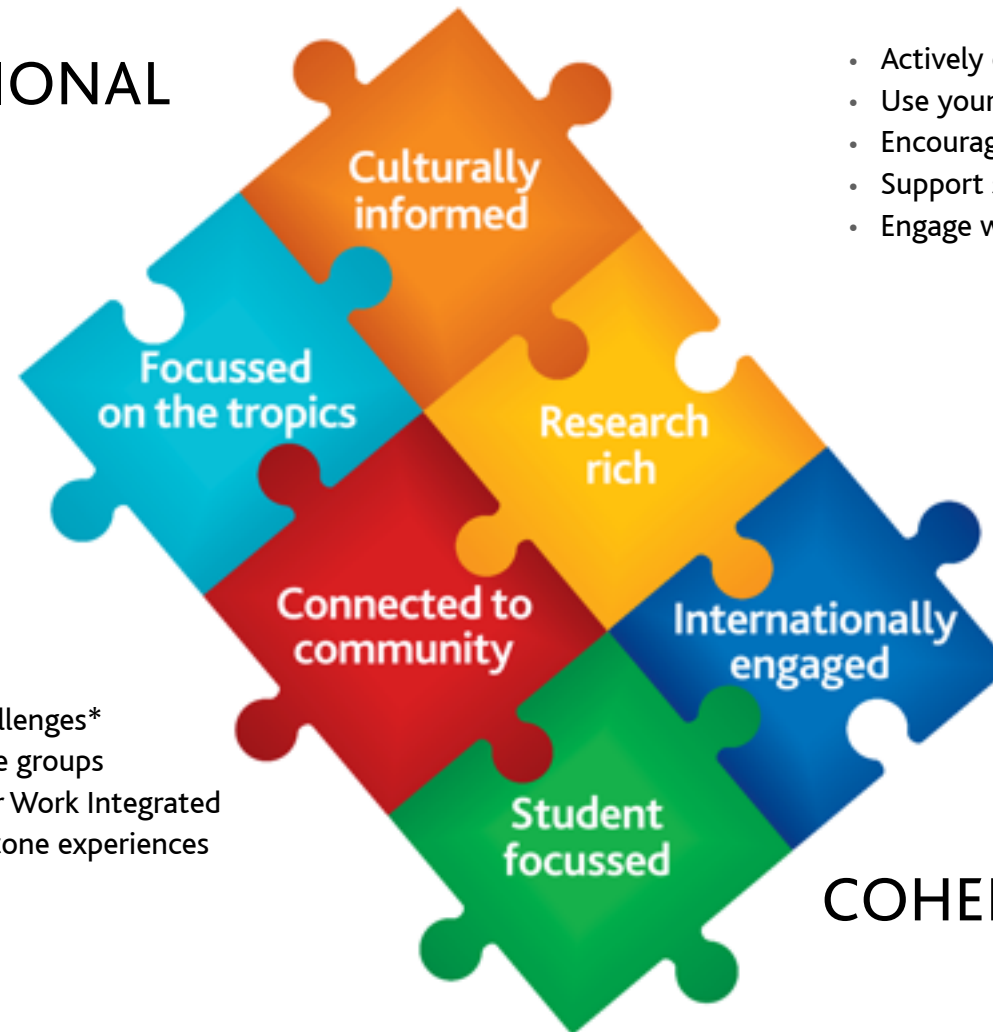
THE SIX PRINCIPLES OF THE JCU MODEL

- Actively engage with Australian Aboriginal and Torres Strait Islander cultural learning opportunities
- Promote appropriate cultural protocols with Australian Aboriginal and Torres Strait Islanders
- Develop experiences that enhance cross-cultural communication
- Actively embed Australian Aboriginal and Torres Strait Islander perspectives

INTENTIONAL

- Engage with the Grand Challenges* of the tropics
- Create immersion experiences in the tropics
- Use case studies from the tropics

- Support collaborations
- Participate in Grand Challenges*
- Ensure external reference groups
- Provide opportunities for Work Integrated Learning and other capstone experiences



- Actively engage with the teaching research nexus
- Use your own research in your teaching
- Encourage students to participate in your research
- Support students to learn to be researchers
- Engage with the Scholarship of Learning and Teaching

- Embed international perspectives
- Promote student mobility
- Foster global citizenship
- Promote interactions amongst students from different cultural backgrounds

COHERENT

- Foster comprehensive, integrated and coordinated approaches to the student experience
- Promote inclusive and supportive curriculum
- Ensure data and research-informed curriculum
- Create authentic, relevant and scaffolded learning and assessment
- Embrace diversity

**Grand Challenges are defined as "those which transcend national boundaries and pose significant threats to societies and environments" (Royal Society, 2011, p. 72)*

2

DECIDE ON A FRAMEWORK

As stated earlier, learning and teaching is highly situated within your disciplinary field. Therefore we are not recommending a one size fits all model of teaching. We look at different approaches to teaching by exploring various teaching frameworks. Approaches are then chosen according to what best fits your discipline context.

Consider what frameworks will best support the implementation of blended learning for your subject. Decide on the most purposeful blend to support student learning and promote a positive student experience.

Do you want to enable, enhance or totally transform your subject? Enabling blends offer students more flexibility and address equity and access issues. Enhancing blends facilitate incremental changes to teaching that make the most of the face-to-face and online components. Transformative blends do just that - a major redesign!

A range of frameworks are outlined in the following pages. After reviewing these frameworks decide on the one that best suits your discipline and student cohort.

The frameworks detailed in this document are:



- [Inquiry based learning](#)
- [Problem based learning](#)
- [Scenario based learning](#)
- [Case based learning](#)

INQUIRY BASED LEARNING



Inquiry based approaches investigate issues/phenomenon in a structured and student-centred way. Student engagement and deep learning is fostered by following a series of steps that lead to a conclusion or new idea. Students construct knowledge starting with the basics and building to more complex ideas. It is often used as a broad umbrella term that includes all forms of learning stimulated by inquiry including problem-based and case based learning. We have chosen to elaborate separately on each in this guide.

THE 5E's

One inquiry based model for constructing blended learning is the 5E's. The 5E's model emanated from science curriculum. The 5E's model is derived from the concept that students learn and retain knowledge when they have had the opportunity for discovery through a variety of experiences purposefully designed by the teacher or learning facilitator. Student use their prior knowledge to make connections between new information/ experiences and prior knowledge. To help students make these connections learning facilitators structure experiences that are organised into five phases.

Engage

- Focus is to mentally engage student by capturing their interest and giving them an opportunity to demonstrate their prior knowledge.
- Helps them make connections between prior knowledge and new ideas.
- **Active learning approaches**
 - Background knowledge probes; topical/controversial video & associated focus question(s); focussed listing; pre-quiz; dialogue journal/work log book; mind mapping; questions, establishing learning goals/ rubrics; blank slides; question slides, Graphic organiser ;KWL chart.

Explore

- Focus is to facilitate activities that give students the opportunity to explore the concept/skill. This should allow them to engage with problems and describe them in their own words.
- Helps them acquire a common set of experiences to share with their peers.
- **Active learning approaches**
 - Brainstorming; buzz groups; corner strategy; jigsaw; muddiest point; problems; questions; information search; directed questioning; test-taking teams; think-pair-share; simulations; 3-step interviews; creating academic notes; summary templates; non-linguistic representations; direct vocab instruction; discussion forum; blog; wiki; workstations; problem of the day.

Explain

- Focus is for facilitator to provide the concepts and terms already used by the students to develop explanations for the phenomenon they have already experienced.Helps them acquire a common set of experiences to share with their peers.
- Explanation follows experience.
- **Active learning approaches**
 - Brainstorming; buzz groups; debate; academic note taking; jeopardy; who wants to be a millionaire; questions; ten-two strategy; roundtable; think-pair-share; 3-step interviews; discussion forum; online quiz; blog; wiki; blackboard work; problem of the day; text reading; step-by-step.

Elaborate

- Focus is for students to apply knowledge/skills to develop a deeper understanding or better demonstration of skill.Explanation follows experience.
- Students need to discuss and compare ideas.
- **Active learning approaches**
 - Identifying similarities and differences; identifying patterns; perspective analysis; analysing errors; academic portfolio; question and answer pairs; brainstorming; cases; critical debate; jigsaw; presentations; breakout rooms; collaborative projects; problems; questions; roundtable; simulations; 3-step interviews; problem posing; critiques; concepts to pictures; pictures to algebra; multiple representations; application problems; student generated quiz/test questions; problem of the day.

Evaluate

- Focus is to review and reflect on their learning, new understandings/skills.
- Students provide evidence of learning.
- **Active learning approaches**
 - Self evaluation rubric; analysing errors; problem solving; closing summary; dialogue journal/ work log book; focussed listing; mind mapping; muddiest point; one-minute paper/free write; post-quiz; questions; directed questioning; reflection templates.

PROBLEM BASED LEARNING



Problem-based learning (PBL) is a method of learning and teaching which allows students to focus on how and what they will learn. An unfamiliar problem, situation or task is presented to the students (by the lecturer or tutor) and students are required to determine for themselves how they will go about solving the problem. This usually occurs through small group work and allows students to utilise their prior knowledge in the topic area and identify the gaps in their knowledge as they attempt to solve the problem.

PBL is a student-centred approach to learning that encourages students to be self-directed, interdependent and independent as they attempt to solve the set problem. Problem-based learning uses authentic, loosely structured problems for students to solve. Students receive guidance, but not answers, from facilitators and assessment is based on student performance. The teacher in PBL becomes a facilitator of the learning process rather than providing the knowledge.

Characteristics of PBL:

- Students must have the responsibility for their own learning
- PBL is learner centred
- Problem simulations must be 'ill-structured' or open ended
- Learning should be integrated from a wide range of disciplines or subjects
- Collaboration is essential
- Student learning through self-directed process must be applied back to the problem with analysis, resolution and discussion
- Peer and self-assessment should be carried out
- PBL activities must be those valued in the real world
- Student assessment should include measurement of student progress toward goals of student problem-solving capabilities
- PBL should be the pedagogical base in the curriculum and not a part of a didactic curriculum

Expected Outcomes:

- Flexible knowledge
- Effective problem-solving skills
- Self-directed learning skills
- Effective collaboration skills
- Intrinsic motivation



<https://www.flinders.edu.au/teaching/quality/teaching-methods/problem-based-learning.cfm>

<http://www.pbl.uci.edu/whatispbl.html>

<http://www.crlt.umich.edu/tstrategies/tscbt>

Defining Characteristics of PBL:

WHAT:	HOW?	WHY?
Student-centered & Experiential	Select authentic assignments from the discipline, preferably those that would be relevant and meaningful to student interests. Students are also responsible for locating and evaluating various resources in the field.	Relevance is one of the primary student motivators to be a more self-directed learner.
Inductive	Introduce content through the process of problem solving, rather than problem solving after introduction to content.	Research indicates that deeper learning takes place when information is introduced within a meaningful context.
Builds on/challenges prior learning	If the case has some relevance to students, then they are required to call on what they already know or think they know. By focusing on their prior learning, students can test assumptions, prior learning strategies, and facts.	The literature suggests that learning takes place when there is a conflict between prior learning and new information.
Context-specific	Choose real or contrived cases and ground the content in the kinds of challenges faced by practitioners in the field.	Again, context-specific information tends to be learned at a deeper level and retained longer.
Problems are complex and ambiguous, and require meta-cognition	Select actual examples from the real life of the discipline that have no simple answers. Require students to analyze their own problem solving strategies.	Requires the ability to use higher order thinking skills such as analysis, synthesis, evaluation, and creation of new knowledge.
Creates cognitive conflict	Select cases with information that makes simple solutions difficult: while the solution may address one part of a problem, it may create another problem. Challenges prior learning as noted above.	The literature suggests that learning takes place when there is a conflict between prior learning and new information.
Collaborative & Interdependent	Have students work in small groups in order to address the presented case.	By collaborating, students see other kinds of problem solving strategies used, they discuss the case using their collective information, and they need to take responsibility for their own learning, as well as their classmates.

SCENARIO BASED LEARNING



“Scenario-based learning is a methodology which aims to promote deep learning and awareness by involving participants in realistic critical incidents where they are forced to consider a wide range of factors, make decisions and reflect on the outcomes and what they have learned from this” (CLPD, University of Adelaide).

The scenario or situation may be created by the teacher and/or students. Successful scenarios excite the interest of participants and contain a degree of uncertainty consistent with lived experiences. Scenarios are created to allow students to seek or demonstrate knowledge.

Scenarios may take the form of:

- A verbal set of instructions or circumstances, given to students as complete or incomplete
- A written outline of circumstances with 'gaps' for students to complete themselves
- A detailed brief about roles, role positions and attitudes, tasks, relationships and responsibilities

Scenarios have much in common with film, theatre and television. For instance, they (usually) have credible roles, a motivator/twist, an authentic storyline, a challenge, an emotional dimension, high points and a resolution. As such, these components can be motivating when applied to theoretical-practical bridges of the discipline/professional area.



CASE BASED LEARNING

A black and white photograph of a person sitting at a desk, viewed from the side. They are using a computer with a large monitor displaying a video player interface. The monitor shows a dark screen with some text, including 'Saka Productions Presents'. The person is wearing a light-colored t-shirt. The desk has a keyboard and a mouse. In the background, there are other computer monitors and a whiteboard.

Teaching with case studies is an effective discussion-based strategy that is appropriate for a wide variety of contexts. Case studies give students experience identifying patterns and applying models/theories. Case studies are authentic scenarios that present a problem or issue for students to discuss and solve. Ideally, cases should have several possible solutions. Effective case study discussions require meticulous planning and structure. The case should be linked to specific course learning goals. For example, a graduate nursing subject includes the following objective:

To develop effective strategies for the resolution of administrative problems relating to quality and cost effectiveness. Most cases are either based on real events, or are a construction of events which could reasonably take place. The information contained in a case study might be complex (including charts, graphs, and relevant historical background materials) or simple—a human story that illustrates a difficult situation requiring a decision.

A best practice in case study discussions is to immediately begin the session with a low-level question, poll, or brainstorming activity that engages as many student voices as possible. Scaffold case study discussion questions from basic comprehension of the scenario to more advanced analysis and decision-making. Bloom's Taxonomy is a useful tool to help you design lower to higher level thinking questions. Higher-level questions might be posed as open-ended retrospective, predictive, or action-oriented questions. Let students know that they will be taking an active role in the class. Role-play is often an effective strategy to supplement student application and analysis of case study concepts. As part of your planning process, consider how you will debrief and emphasize key points. Perhaps you want to relate the case to a model or framework presented in the textbook. The case study methodology can be a valuable teaching and learning strategy in online courses as well as face-to-face courses. Complicated cases work well in online courses because students have time to reflect and develop meaningful contributions to the discussions.

Once you have taught a case, it is helpful to reflect on students' responses, to see if the case can be developed further, or whether more background information can or should be provided. You can even invite students to participate in the creation of the next installment, and build the case's story for use in future classes. Using cases can be an invigorating approach to teaching, and can help your students take much more responsibility for their own learning in your class. Because cases are not necessarily the best way to communicate large amounts of new information, they should not be seen as replacements for lectures. And in this sense they are probably not always appropriate for introductory level classes, since students usually need a good deal of background knowledge to be able to adequately interpret and resolve a case. By placing students in real situations, and asking them to make critical decisions, case studies force students to connect their knowledge of facts with the need for evaluative skills.



<http://www.cidde.pitt.edu/blog/teaching-with-case-studies/>

<http://www.crlt.umich.edu/tstrategies/tscbt>

<http://medicine.cf.ac.uk/medical-education/undergraduate/why-choose-cardiff/our-curriculum/what-case-based-learning-copy/>

PROJECT BASED LEARNING



Project Based Learning is a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an engaging and complex question, problem, or challenge.

- **Key knowledge, understanding, and success skills** - The project is focused on student learning goals, including standards-based content and skills such as critical thinking and problem solving, collaboration, and self-management
- **Challenging problem or question** - The project is framed by a meaningful problem to solve or a question to answer, at the appropriate level of challenge
- **Sustained inquiry** - Students engage in a rigorous, extended process of asking questions, finding resources, and applying information
- **Authenticity** - The project features real-world context, tasks and tools, quality standards, or impact – or speaks to students' personal concerns, interests, and issues in their lives
- **Student voice and choice** - Students make some decisions about the project, including how they work and what they create
- **Reflection** - Students and teachers reflect on learning, the effectiveness of their inquiry and project activities, the quality of student work, obstacles and how to overcome them
- **Critique and revision** - Students give, receive, and use feedback to improve their process and products
- **Public product** - Students make their project work public by explaining, displaying and/or presenting it to people beyond the classroom

In Project Based Learning, students are active, not passive; a project engages their hearts and minds, and provides real-world relevance for learning. 21st century workplace success requires more than basic knowledge and skills. In a project, students learn how to take initiative and responsibility, build their confidence, solve problems, work in teams, communicate ideas, and manage themselves more effectively. Students are familiar with and enjoy using a variety of technology tools that are a perfect fit with Project Based Learning. With technology, teachers and students can not only find resources and information and create products, but also collaborate more effectively, and connect with experts, partners, and audiences around the world. Projects provide students with empowering opportunities to make a difference, by solving real problems and addressing real issues.



<http://www.edutopia.org/project-based-learning>

http://bie.org/about/what_pbl

<http://www.learnnc.org/lp/pages/4753>

3

DEVELOP A SUBJECT MAP/PLAN

The next phase of your design involves developing a plan for how your subject will be taught. Map your topics/modules across the teaching period. Sequence content so it flows in a logical progression that students can navigate. Use the adaptive release feature of LearnJCU to support students' access and engagement.

Consider the mix of face-to-face and online sessions that will best allow students to engage with the subject materials and activities. Provide explicit guidance about the purpose and nature of various face-to-face learning experiences and on to how to use learning resources within LearnJCU (site map, location of assessment, learning activities, collaboration tools). An important aspect in this phase, is deciding how you will communicate your subject plan and expectations to your students. Your subject design should include guidance for learners on how they can work with content in meaningful ways.

Clearly indicate staff support options (both academic and professional) available to students throughout the subject. Real-time support using synchronous sessions such as via LearnJCU Collaborate can be provided for students studying in external and block mode. Links in LearnJCU to learning skills support, information literacy guides relevant to the subject, self – help resources such as Lynda.com and LearnJCU guides empowers students to manage their learning.

Subject		Subject title													
Week	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Learning Outcomes	1. Learning outcome					2. Learning outcome					3. Learning outcome				
											4. Learning outcome				
Assessment		One Description				Two Description				Three Description					
Enabling Tool		Quiz				Wiki				Drop Box					
Blend (F2f & online)		Lecture 1 x 2hrs	Lecture 1 x 2hrs	Lecture 1 x 2hrs	Lecture 1 x 2hrs	Web Conference 1hr	Online Activities	Online Activities	Online Activities	Web Conference 1hr	Online Activities	Online Activities	Online Activities	Online Activities	Online Activities
		Tutorial 1 x 2hrs	Tutorial 1 x 2hrs	Tutorial 1 x 2hrs	Tutorial 1 x 2hrs		Tutorial 1 x 2hrs	Tutorial 1 x 2hrs	Tutorial 1 x 2hrs						
Topics		Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6	Topic 7	Topic 8	Topic 9	Topic 10	Topic 11	Topic 12	Topic 13	
Learning Activities			Activity	Activity	Activity	Activity	Activity	Activity	Activity	Activity	Activity	Activity	Activity	Activity	Activity
			Activity	Activity		Activity	Activity	Activity	Activity		Activity	Activity		Activity	Activity
Enabling Tool		Discussion	Discussion			Collaborate	Blog	Blog		Collaborate		Journal	Journal	Journal	
Feedback			Feedback				Feedback							Feedback	

You may find a visual representation a useful tool. This [Subject Sequence Template](#) is a flexible visualization tool and is available on the Learning Teaching and Student engagement website.

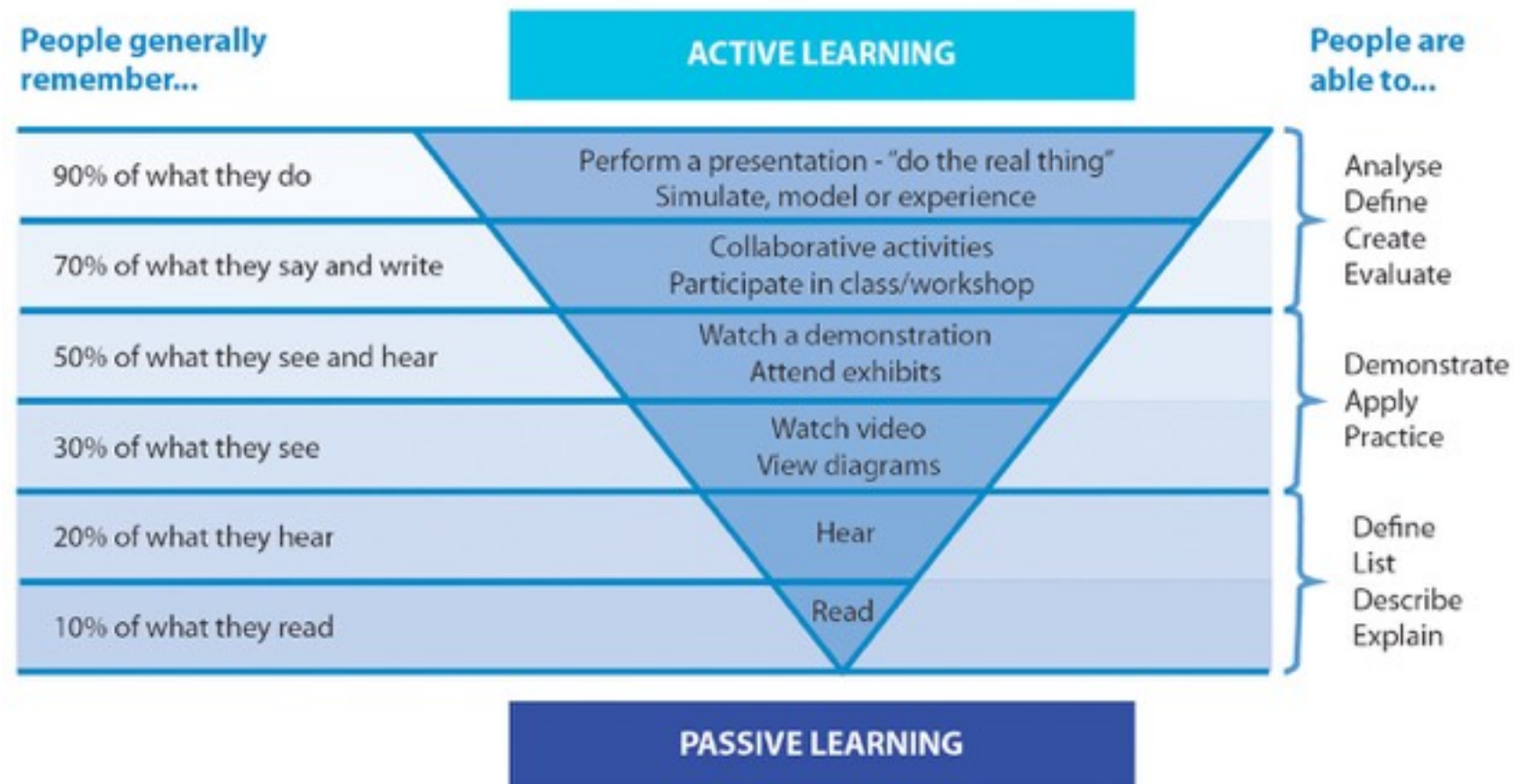
It contains the following headings:

- Week/Date
- Learning Outcomes
- Assessment
- Blend (Face-to-face and Online)
- Topics
- Learning Activities
- Feedback

LEARNING ACTIVITIES

Teaching involves developing challenging and engaging learning activities. Consider the range of learning activities that will offer students opportunities for meaningful interaction with peers and teachers. In designing different types of learning activities, consider using Bloom's Digital Taxonomy to match learning activities to the level of learning expected. Consider the JCU enabling technologies that will support effective participation in these learning activities.

When designing your learning activities keep in mind that active engagement with subject material is vital for effective learning. Research overwhelmingly supports the idea that student achievement is enhanced when students go beyond the passive tasks of listening and reading or viewing. Active engagement can be facilitated through individual or collaborative work. Within your subject, student activity should ideally include a combination of individual and collaborative work as well as formative and summative tasks to support students in attaining the subject learning outcomes.





This table aligns different types of blended learning activities with cognitive processes organised according to Bloom's Taxonomy. If you are interested in applications related to active learning and Bloom's Taxonomy please follow these links: [Bloomin Apps](#) and [PadWheel](#).

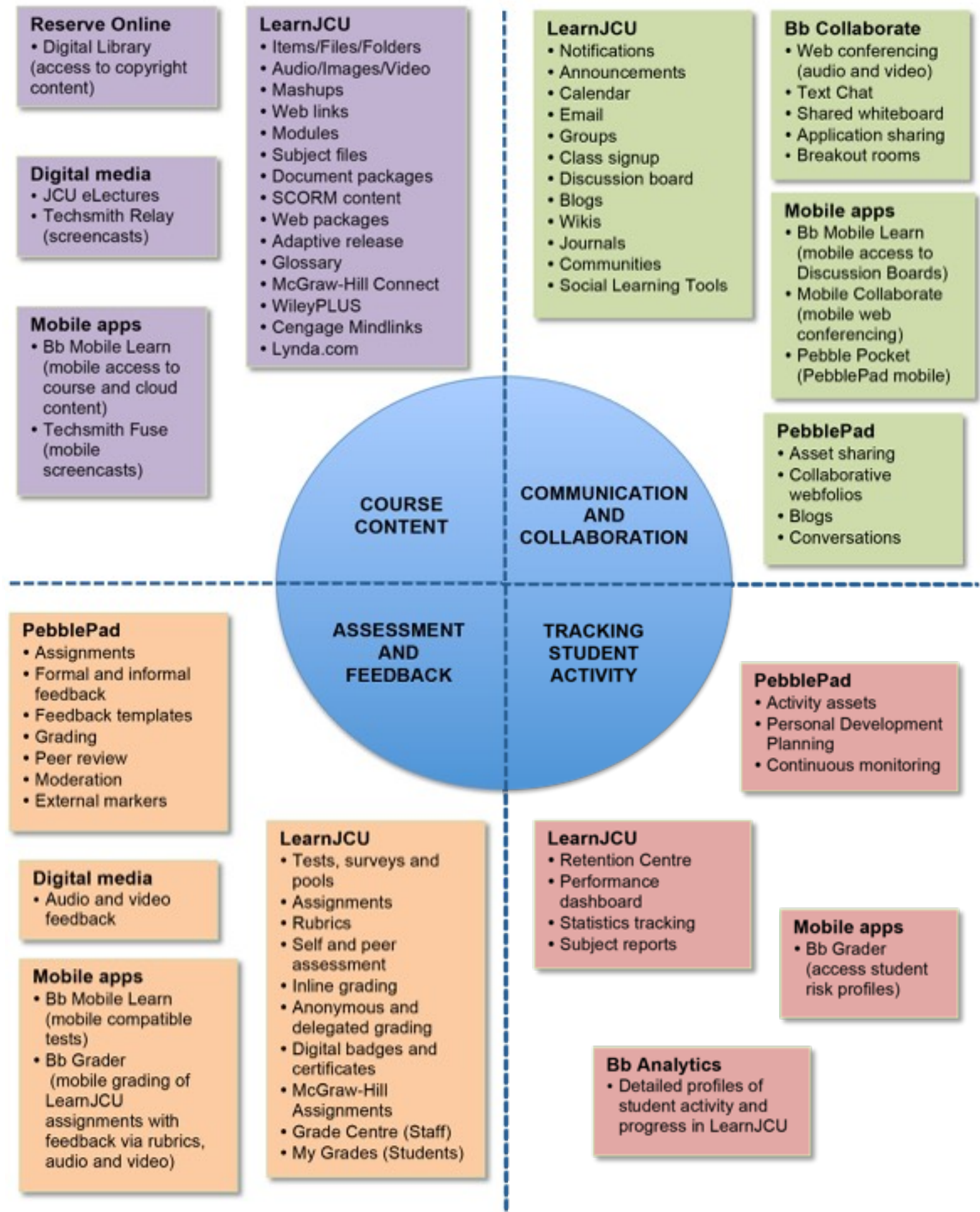
Level of learning	Types of blended learning activities
Creating Designing, constructing, planning, producing, inventing	Programming, filming, animating, video/blogging, mixing/re-mixing, web publishing, webcasting, directing or producing, – used to create a film, presentation, story, program, projects, media product, graphic art, podcast, advertisement or model.
Evaluating Checking, hypothesising, critiquing, experimenting, judging, testing	Debate or panel (using webcasting, web conferencing, online chat or discussion), investigating, (online tools), and reporting (blog, wiki, presentation), persuasive speech (webcast, web document, mind document, mind map-presentation mode), commenting/moderating/reviewing/posting (discussion forums, blogs, wiki, chat room, twitter) as well as collaborating and networking.
Analysing Comparing, organising, Reconstructing, interrogating, structuring	Surveying/polling, using databases, relationship mind maps, online SWOT analysis, reporting (online charts, graphing, presentation or web publishing), mashing, metatagging.
Applying Implementing, carrying out, using, executing, editing	Simulation games or tasks, editing or developing shared documents (wiki, video and sound tools), interviews (e.g. making podcast), presentation or demonstration tasks (using web conferencing or online presentation tools), illustration (using online graphic, creative tools).
Understanding Interpreting, summarising, paraphrasing, classifying, explaining, comparing	Building mind maps, blog journaling, wiki (simple page construction), categorising and tagging, advanced internet (Boolean) searches, tagging with comments or annotations, discussion forums, show and tell (with audio, video webcasting).
Remembering Recognising, listing, describing, identifying, retrieving, naming, locating	Simple mind maps, flash cards, online quizzes, basic internet searches (fact finding, defining), social bookmarking, Q&A discussion forums, chat, presentations.

Table of Bloom's Digital Taxonomy - Source: Adapted from [Churches, 2008](#).

The Teaching with Technology at JCU diagram shows JCU supported technologies, according to the following purposes:

- Delivery of course content
- Communication and collaboration
- Tracking student activity
- Assessment and feedback.

When designing for blended learning, this diagram provides a way to consider which technologies can support the planned activities designed to enhance student learning.



IMPLEMENTING

1

TRACKING LEARNER ACTIVITY AND PROVIDING FEEDBACK

During the Study Period, it is important to monitor how students are engaging with the subject materials and participating in face-to-face and online elements. Technology enables teachers to track learner activity and provide feedback to support learning. Learning Analytics can be used to review and improve the use of content and learning activities. It can be used proactively to identify students in need of support to enable resources to be provided as appropriate.

Blackboard Analytics for Learn is a software program that extracts and integrates staff, student and organisational data from Blackboard LearnJCU and existing University information systems to create a series of new reports for academic staff with a focus on real-time learning, teaching and student engagement. The reports enable 24/7 real-time monitoring for engagement and early identification of students requiring intervention and support case management activities.

At JCU, Learning Analytics provides a proactive approach to the use of data in a dual-pronged approach to improve the student experience and curriculum design through reflection on student access considerations, purposeful online resources, subject site design and data for planning and professional development requirements.



<https://www.jcu.edu.au/learning-and-teaching/learning-analytics>



Learning Analytics

Make comparisons to inform

SUBJECT AT A GLANCE

This report can help analyse how a particular LearnJCU subject site is designed, how the site compares to other LearnJCU subjects in the same College, and how the students in the subject are using the site and performing in the subject compared to the average of all students enrolled in the subject.

Consider grade and activity relationship

ACTIVITY AND GRADE SCATTER PLOT

This report can help analyse how the activity of students does (or doesn't) relate to the grade recorded in the Grade Centre.

Learning Analytics report access in LearnJCU

ACTIVITY MATRIX

This report can help analyse activity and grade patterns in a subject, and help find students with different usage and performance profiles, both of which can be used to support differentiated educational approaches.

SUBJECT SUBMISSION SUMMARY

This report can be used to identify students who may not be engaged in the subject by displaying trends and numbers of submissions compared to the average across all students in that subject.

Track learner activity

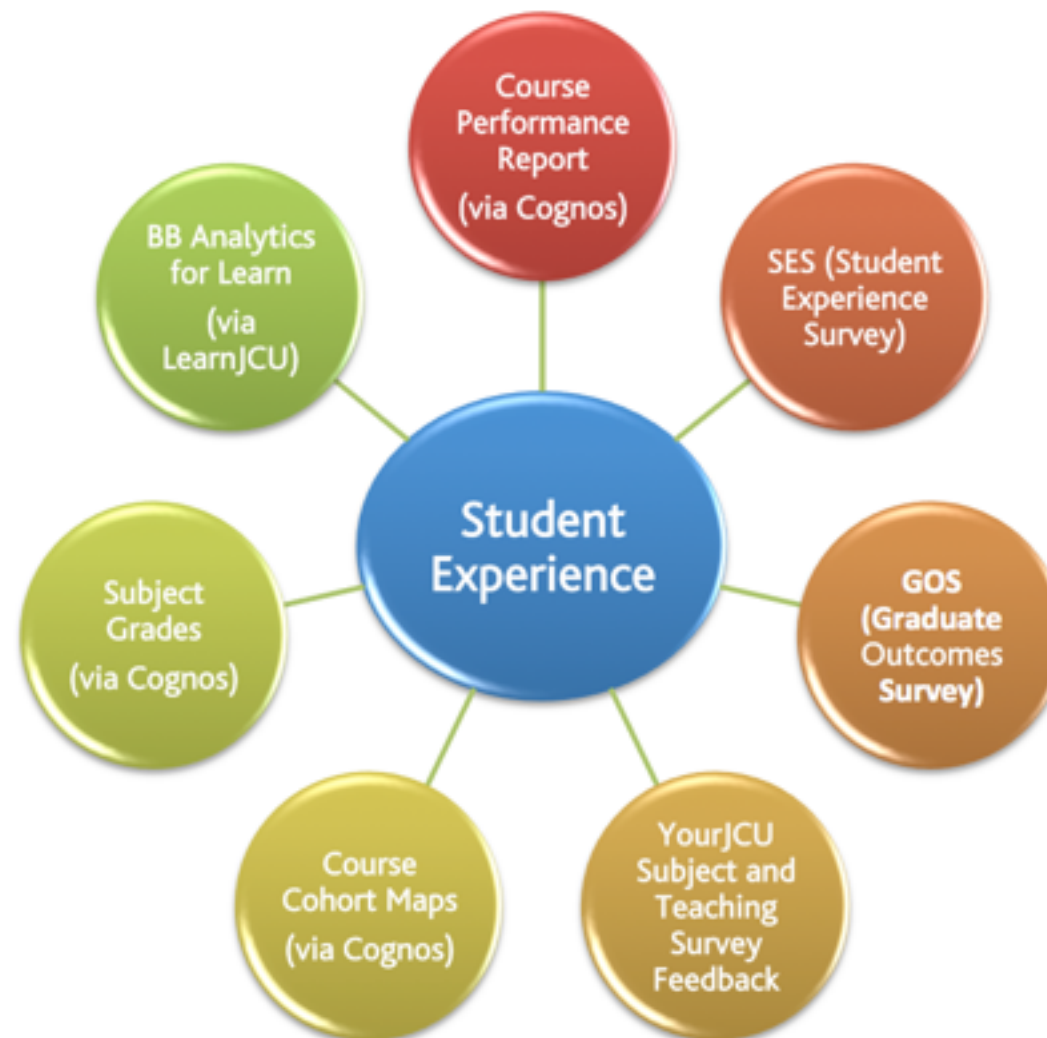
Monitor student contribution

REVIEWING

Consider the data sources you will use to find out if your blend is working for your students. There are a number of data sources that enable feedback from students, staff and industry partners.

You can embed survey questions in LearnJCU as well as having formal subject evaluations or peer reviews.

Consider reviewing the student experience and success within your subject and course using the following data sources.

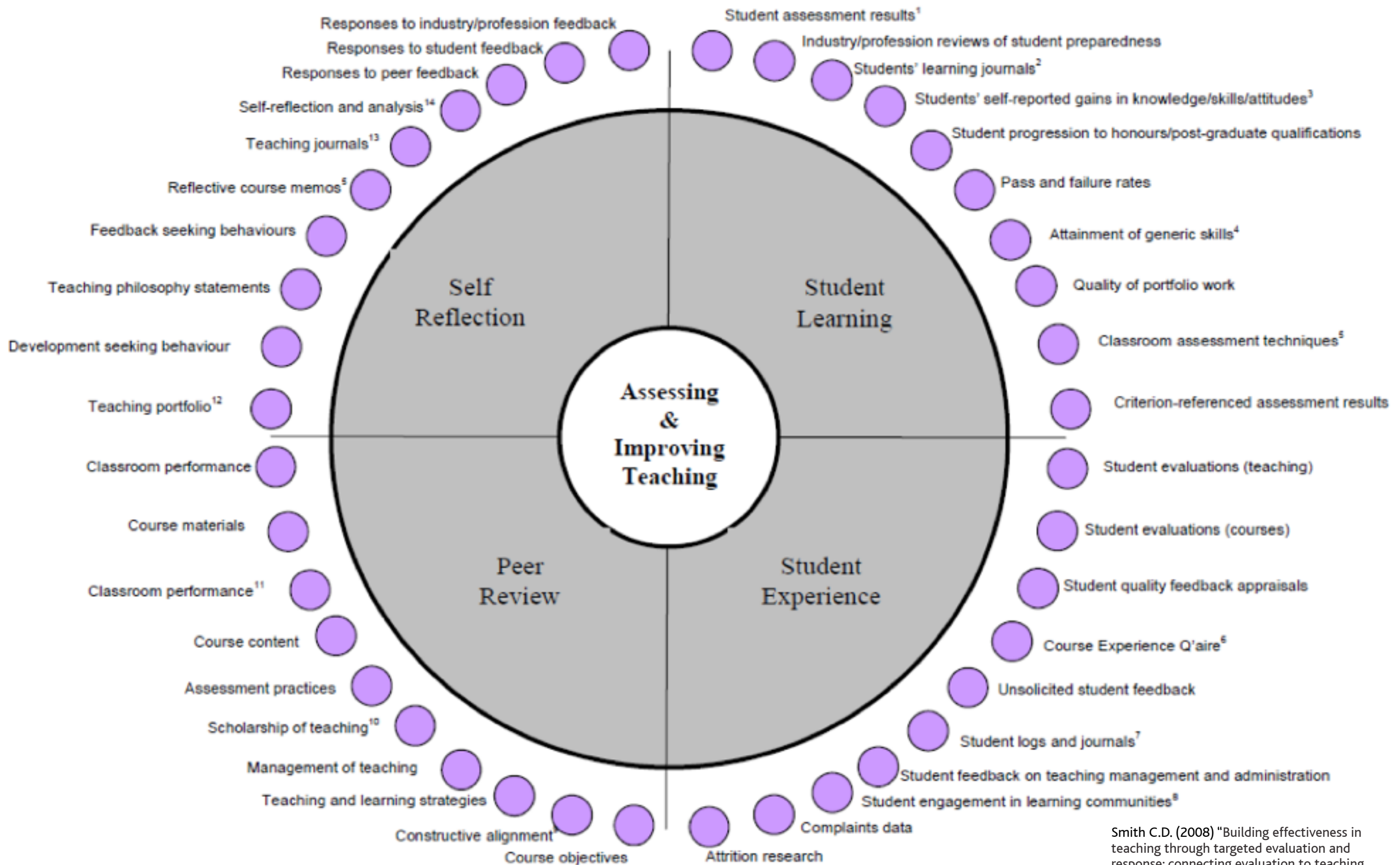


IMPROVING

An evaluation plan will enable you to assess the effectiveness of your subject design and implementation, as well as inform continuous improvement. The 4Q model of evaluation is a useful tool for considering a range of ways to seek balanced feedback based on: the student experience; evidence of student learning; peer feedback; and self-reflection. Use the diagram on the following page as a guide.

Once you have gathered your feedback, consider the changes that need to be made for the next delivery of the subject. Ensure that is reflected in the next iteration of the subject and that you 'close the loop' by informing students how their feedback informed the changes in the [Subject Outline](#) section 2.4 'Student feedback on subject'.

THE '4Q' MODEL OF EVALUATION



Smith C.D. (2008) "Building effectiveness in teaching through targeted evaluation and response: connecting evaluation to teaching improvement in higher education." *Assessment & Evaluation in Higher Education* 1–17.

CHAPTER 3

ADDITIONAL RESOURCES

This book is designed as a living document so further chapters and resources will be added over time. There are many quality educational resources that highlight good practices for learning and teaching in different disciplines. If you are aware of resources that might support your colleagues, please contact the Blended Learning and Innovation team so these can be incorporated in subsequent versions. We look forward to continuing to support you in designing the most useful blend for your learners.