

Succeeding in postgraduate study



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Introduction and guidance

Introduction and guidance

This badged open course, *Succeeding in postgraduate study*, will introduce you to the nature of Master's-level study. It offers essential preparation for pursuing your learning at this level.

The course covers four thematic areas (over eight sessions):

1. The nature of Master's-level study and distance learning
2. Essential information and digital literacy skills for postgraduate study
3. Some approaches to critical thinking, analysis and reflection
4. Applying critical and reflective thinking in academic and professional contexts.

You will find this course useful if you are planning to study at postgraduate level. It will also be helpful if you are re-engaging with postgraduate study after a period of absence from academic study. If you are planning to move on to postgraduate study soon, do make sure that you complete this course well in advance of the start date of your postgraduate course.

This course can be started at any time. You can work through the eight sessions at your own pace, and while there are no restrictions on the length of time required to complete this course, as a guide, if you were to study one session each week, then it is possible to complete the course over an eight-week period. Should you find that you do have time and wish to press on, you can complete the course over a shorter timescale to suit your circumstances. Completing this course ahead of the start date for your intended postgraduate degree programme will ensure that you are better prepared for your postgraduate studies.

As part of this course, you will undertake a number of interactive quizzes, of which Sessions 4 and 8 will provide you with an opportunity to earn a badge to demonstrate your new skills. You can read more on how to study the course, and about badges, in the next sections.

After completing this course you will be able to:

- understand the requirements and demands of academic study at Master's level
- recognise and begin to apply some of the conventions of academic and reflective writing expected at postgraduate level
- carry out a literature search around a familiar subject and cite and reference literature within a short piece of original text
- compare and evaluate different arguments and perspectives on a particular issue
- begin to apply critical and reflective thinking in academic and professional contexts.

Moving around the course

In the 'Summary' at the end of each session, you can find a link to the following session. If at any time you want to return to the start of the course, click on 'Course content'. From here you can navigate to any part of the course. Alternatively, use the session links at the top of every page of the course.

It's also good practice, if you access a link from within a course page (including links to the quizzes), to open it in a new window or tab. That way you can easily return to where you've come from without having to use the back button in your browser. You can do this by holding down the 'CTRL' key (or CMD on a Mac) and left clicking the mouse button; or right click and 'open in new tab'.

What is a badged course?

While studying *Succeeding in postgraduate study* you have the option to work towards gaining a digital badge.

Badged courses are a key part of The Open University's mission *to promote the educational well-being of the community*. The courses also provide another way of helping you to progress from informal to formal learning.

To complete a course you need to be able to find about 24 hours of study time, over a period of about eight weeks. However, it is possible to study them at any time, and at a pace to suit you.

Badged courses are all available on The Open University's [OpenLearn](#) website and do not cost anything to study. They differ from Open University courses because you do not receive support from a tutor. But you do get useful feedback from the interactive quizzes.

What is a badge?

Digital badges are a new way of demonstrating online that you have gained a skill. Schools, colleges and universities are working with employers and other organisations to develop open badges that help learners gain recognition for their skills, and support employers to identify the right candidate for a job.

Badges demonstrate your work and achievement on the course. You can share your achievement with friends, family and employers, and on social media. Badges are a great motivator, helping you to reach the end of the course. Gaining a badge often boosts confidence in the skills and abilities that underpin successful study. So, completing this course should encourage you to think about taking other courses.



How to get a badge

Getting a badge is straightforward! Here's what you have to do:

- read each session of the course

- score 50% or more in the two badge quizzes in Session 4 and Session 8.

For all the quizzes, you can have three attempts at most of the questions (for true or false type questions you usually get only one attempt). If you get the answer right first time you will get more marks than for a correct answer the second or third time. Therefore, please be aware that for the two badge quizzes it is possible to get all the questions right but not score 50% and be eligible for the badge on that attempt. If one of your answers is incorrect you will often receive helpful feedback and suggestions about how to work out the correct answer.

For the badge quizzes, if you're not successful in getting 50% the first time, after 24 hours you can attempt the whole quiz, and come back as many times as you like.

We hope that as many people as possible will gain an Open University badge – so you should see getting a badge as an opportunity to reflect on what you have learned rather than as a test.

If you need more guidance on getting a badge and what you can do with it, take a look at the [OpenLearn FAQs](#). When you gain your badge you will receive an email to notify you and you will be able to view and manage all your badges in [My OpenLearn](#) within 24 hours of completing the criteria to gain a badge.

Get started with [Session 1](#).

Session 1: The nature of Master's-level study

Introduction

Welcome to the course *Succeeding in postgraduate study*.

In this first session we will be taking a look at Master's-level study and how it differs from undergraduate study. We will consider some of the requirements and demands of studying at this level, explore the different types and purpose of Master's degrees, and look at some of the characteristics expected of Master's graduates – those who have successfully completed a Master's degree programme.

Before we begin, please watch this short video in which the course authors, Eric Addae-Kyeremeh and Payam Rezaie, introduce you to Session 1.

Video content is not available in this format.

[Session 1 introduction](#)



Please note that the 'accompanying introductory notes' mentioned in the video refer to [this page in the Introduction and guidance section](#).

Having viewed the video, you should now have a good impression of what this course sets out to achieve, how this suits your particular study needs, and how it will enable you

to be better prepared for postgraduate study. Just to reaffirm, throughout this course when we refer to 'postgraduate study', we mean Master's-level or equivalent study undertaken as part of a *taught* postgraduate programme (PGCert, PGDip, MSc, MA, MBA), and not 'research' degrees (MPhil or PhD) *per se*. However, the fundamental principles and core study skills that are discussed here do also apply more generally, including to research degree programmes.

Moving on to postgraduate study can seem daunting at first, particularly if you are returning to study after an extended break. We want to reassure you right from the start – you shouldn't be put off if you find, as you work through the course, that you are not confident in your abilities or understanding in some areas. Our aim throughout this course is not only to help you gain a better understanding of the requirements and demands of studying at Master's level, but also to provide you with practical advice, and essential tools that will build on your existing capabilities, and support you to develop your skills and the confidence to pursue your learning further. Activities within this session will specifically help you to check your expectations, evaluate your readiness, and develop key skills (such as prioritising tasks, managing your study time, and personal development planning) that will ensure you are both well-informed and well-prepared for postgraduate study. Towards the end of this session, we will also introduce you to some aspects of studying for a Master's by distance learning, as an option that may suit your personal lifestyle and career goals. We discuss some of the benefits as well as the pressures of studying online, and take a look at certain misconceptions around distance and online learning.

By the end of this session you should be able to:

- understand the requirements and demands of academic study at Master's level
- understand the nature of distance learning on a Master's programme
- plan your studies to suit your work–life situation and optimise your study time.

The Open University would really appreciate a few minutes of your time to tell us about yourself and your expectations for the course before you begin, in our optional [start-of-course survey](#). Participation will be completely confidential and we will not pass on your details to others.

1 Master's-level study and how it differs from undergraduate study

Let's begin with a short reflective exercise. Pause to consider, based on your prior knowledge and experience, how studying for a postgraduate course may differ from undergraduate study (i.e. your first degree).

Activity 1 Checking your expectations

Allow approximately 10 minutes

- What are your expectations about postgraduate study, and what this may involve?

- What do you suppose are key differences between postgraduate and undergraduate study?

You may wish to structure your thoughts and jot these down. We will return to these questions shortly.

Provide your answer...

Discussion

You may have noted down some of the following as key differences:

- level of proficiency and specialist knowledge
- career focus and relevance
- independent or self-directed study requirements
- demands on the student (time, organisation, motivation, commitment etc.)
- learning style and course materials
- depth of inquiry, scholarship and communication
- organisation and assessment of coursework
- study environment
- student cohort, peer and tutor interaction
- study intensity and workload.

In the following two videos you will hear from two students, Nick and Rachel, on their perspectives.

Video content is not available in this format.

[Interview with Rachel](#)



Video content is not available in this format.

Interview with Nick



How well did these perspectives match your own thoughts on the key differences? You may have identified some (or possibly all!) of these points in your own notes. Somewhere along the line, we hope that you picked up on the nature of the first activity, namely the focus on 'reflection', as being important to postgraduate study. Taking the time to reflect on key issues and questions, revisiting and reflecting on your evaluation and appraisal (based on your prior knowledge and experience), and recognising that you will continue to develop this ability, and further your knowledge and understanding as you make progress with your studies, feature prominently at this level. You will already have begun to cultivate these skills. Reflection and reflective analysis will become progressively vital to succeeding at postgraduate level, as you continue in your academic pursuits, in your professional practice, and beyond these, as part of your lifelong skills. We will examine reflective thinking in more detail in Session 2, and consider its application (reflective practice) later on in the course (Session 7). For now, let's take a closer look at some of the key differences between postgraduate and undergraduate study.

2 Key differences between postgraduate and undergraduate study

Here are some further thoughts on a number of the key differences (in no particular order of importance):

- **Level of proficiency.** As part of a 'first' degree, undergraduate study provides the 'grounding' within a field or subject, whereas a postgraduate degree allows the subject to be explored further to attain a higher level of proficiency.
- **Specialist knowledge.** Postgraduate study affords the opportunity to 'specialise' in a particular topic, field or discipline area – advanced 'specialist' knowledge, scholarship or research is gained through a postgraduate degree.
- **Independent study.** Development of 'expertise' in an area through independent study, learning, scholarship or research (academic pursuits), for example as evidenced through an independent inquiry, review, dissertation, or critique at Master's level; some programmes require postgraduate students to maintain a record ('log' or portfolio) of independent study activities and skills development.
- **Career focus.** Vocation-relevant study and training linked to pursuing a career within a specific discipline, specialised area (may be academic, research or professional practice related) or profession, are often offered through a postgraduate degree; some fields rely on key practical knowledge and these programmes will need to meet specific professional accreditation requirements.
- **Commitment and self-motivation.** Greater commitment, personal responsibility and capacity for independent learning are required at postgraduate level.
- **Learning style and key competencies.** Frequently required to source materials outside of the programme and greater reliance on self-directed (independent) study, critical appraisal, reflection and analysis at postgraduate level.
- **Organisation and assessment.** Organisation and assessment of postgraduate courses will differ. Broadly speaking there will be less 'directly-taught' content, but greater emphasis on self-directed independent study is a key feature. Programmes may include both formative and summative assessment. Formative assessment helps to build on and consolidate learning, but does not formally count towards the final result, whereas summative assessment will count towards the outcome of the award. It is not unusual for Master's-level courses to be examined through summative assessment (which could be a single piece of coursework such as a dissertation) at the end of a course, once students have developed their ideas, building on knowledge and understanding gained, as well as independent study and analysis undertaken during the course. The dissertation or project typically forms a more significant proportion (up to a third or more) of the qualification at Master's level.
- **Skills development.** Among other key practical and professional skills, emphasis is placed on research methodology; an ability to effectively demonstrate advanced scholarship; to synthesise, critically evaluate, present and communicate work; to undertake further training where necessary; to meet specific postgraduate skills requirements (e.g. as specified by the Quality Assurance Agency in the UK) and professional skills requirements (e.g. as specified by accrediting organisations/

professional bodies); and to be able to recognise your own further training and development needs.

- **Interaction with peers (other students) and tutors.** Transition from large cohorts of students at undergraduate level to more focused, smaller groups of peers, and a closer relationship with tutor(s) at postgraduate level.
- **Study intensity and workload.** Greater study intensity and higher workload are often expected at postgraduate level.
- **Course materials.** Less reliance on 'standard' course textbooks or 'customised' teaching material at postgraduate level; expect a variety of audio, visual or text-based materials from different sources, and exposure to different 'styles' and formats of correspondence, communication, opinions, and sources of information, reflecting authorship and target audiences, and differences in the 'medium' through which learning is delivered.
- **Depth of inquiry.** Postgraduate students are expected to read around topics highlighted on the course at each stage (i.e. moving beyond the course materials), identify important themes and issues, and think more critically about their reading and selection of resources.
- **Critiquing and communication.** Postgraduate students are frequently required to present and justify their own ideas. Expect to identify, appraise and critically evaluate sources, and to make use of a variety of scholarly and research literature to support your opinion, judgement or argument, and communicate these effectively and in a manner that suits the purpose (task) and the target audience (which may include a lay audience, peers or specific professional groups). Proficiency in the use of the English language (e.g. [IELTS band 6 or higher](#)), and effective academic writing skills are crucial – we will look at this in Session 2.
- **Tutorials, seminars and day schools.** You will be expected to prepare for tutorials, seminars or day schools (which may be online or face-to-face), and demonstrate initiative and personal responsibility for your own learning (having engaged with course materials, and identified and critiqued relevant additional sources to demonstrate your scholarship).
- **Group work and collaborative activities.** Expect to work more closely with your peers (other students), for example in collaborative or group/team activities, to discuss complex ideas and issues with fellow students (e.g. in tutorials or on forums), and to reflect on and develop these further. Some activities may be linked to assessment, where progress will be based on an evaluation of your individual contribution to tutorials, collaborative and group assignments.

Looking back at the first activity and your earlier notes, how much of this has met with your expectations? The list is not exhaustive. We wanted to focus here on some core areas to emphasise the broader distinction. Specialisation and variety among postgraduate programmes mean that while some key components are common to most programmes (for example a dissertation is frequently required for the majority of Master's degrees), there is variability in the structure, content, organisation, assessment, examination, duration and delivery methods of postgraduate courses and qualifications at different universities and in different countries, which means that going beyond these broader comparisons would be difficult (and beyond the remit of this course). However, you should be aware that most taught Master's programmes also include some form of dedicated research methods training – this can take the form of specific courses that set and assess

a range of tasks, components that are embedded across a programme, or through additional research methods training sessions provided by relevant support staff.

3 Intensity, workload and study style

Two key differences between postgraduate and undergraduate study, namely (i) study intensity and (ii) workload, are frequently remarked on by students who embark on a Master's course for the first time. Studying at Master's level is more intense than at undergraduate level. To illustrate this, whereas a student on a full-time undergraduate degree programme (360 credits over 3 years) would typically be expected to complete 120 credits each year, an 'equivalent' full-time Master's degree student would be expected to study 180 credits over the same period (if studying a one-year full-time Master's degree). This probably means also having to adopt a more flexible approach to studying, which may require you to work through some holidays.

At Master's level you should expect to be guided less and to think more for yourself than you may have previously been used to. Generally speaking the assignments at this level are also more stringently assessed and scored. What may have been considered excellent, in terms of scholarship, structure and coherence at undergraduate level could well be judged as the standard expected for a 'good pass' at Master's level.

The step up in intensity, heavier workload, and difference in study style (which is far more student-led) mean that you will be expected to take greater responsibility for planning, monitoring and managing your time, and have control over your own studies. This greater sense of autonomy may be daunting at first, and seem quite a contrast from your undergraduate study experience (with its instructor/tutor-led emphasis, and heavier reliance on provided course materials), but it will help you to develop the fundamental skills expected at this level and, importantly, offer you the opportunity to diversify, develop your interests and to specialise in the process.

Remember that you are not alone in your studies – other students on your course are also there because of shared interests and enthusiasm for the subject. Generally speaking postgraduate students are more focused, attentive and inquisitive. The smaller group sizes on a postgraduate course, the specialist subject area, personal and professional interests of students taking the course, and the closer academic and research interests of tutors, help to foster a sense of mutual interest, of 'collaboration' and 'community', which can provide a positive, rewarding and inspiring learning environment.

4 Types and purpose of Master's degrees

In the UK, the Quality Assurance Agency for Higher Education (QAA) is the body that broadly defines the level and standards expected of degree qualifications. UK Master's programmes are aligned with the QAA's

[Master's Degree Characteristics Statement \(September 2015\)](#). This requires all Master's-level degree courses offered within the UK to conform to 180 CATS credits (equivalent to 1800 hours of study), and to meet specific standards concerning learning outcomes and skills development as part of the degree. UK Master's degrees are also aligned with the [Framework for Qualifications of the European Higher Education Area](#) (QF-EHEA), ensuring that recognised UK qualifications have 'Europe-wide equivalence and standing' (QAA, 2015a). The characteristics and purpose of Master's degrees, specified by the QAA, are summarised below.

Box 1 Master's degree characteristics

Master's degrees may broadly be organised into three categories – 'research', 'specialised/advanced study' and 'professional/practice'... Master's degrees are delivered through a range of models and modes, and are often at the cutting edge of practice in terms of distance or remote learning. Flexibility in delivery is considered key to the ongoing success of Master's degrees... Where Master's degrees aim to prepare students for entry to a particular field of employment, practice or profession, or for progression or transfer within it, a professional, statutory or regulatory body (PSRB) external to the provider may accredit the programme. Graduates of such programmes may be eligible for a particular professional status or may be permitted to enter a further period of practice, study or examination leading to the profession...

Source: QAA (2015a)

Box 2 Purpose of Master's degrees

- enabling students to focus on a particular aspect of a broader subject area in which they have prior knowledge or experience through previous study or employment
- enabling students to focus on a particular subject area or field of study in greater depth than they encountered during the course of previous study or experience (this may include enabling students to develop knowledge of a new subject or field of study in combination with a relevant subject area in which they have prior knowledge or experience, or enabling students to undertake inter or multi-disciplinary study)
- enabling students to undertake a research project on a topic within the area of interest that makes up the majority of the overall assessment
- enabling students to learn how to conduct research and undertake training in research methods, often linked to a particular subject or field of study

- enabling students to specialise or to become more highly specialised in an area of employment or practice related to a particular profession
- supporting progression towards professional registration in a particular profession.

Source: QAA (2015a)

4.1 Key skills required for postgraduate study

By now you should have a fairly good idea of the different types and the purpose of Master's degrees, be able to appreciate some of the main differences between postgraduate and undergraduate study, and recognise the basic requirements for studying at this level. Knowing what to expect ahead of taking on your Master's should make the actual task seem less daunting. It will allow you to plan and better prepare for your prospective studies. Let's take a look now at some of the key skills that you will develop further at postgraduate level. Pause here to consider your own thoughts on this topic, based on your experiences and what we have covered so far in this session.

Activity 2 Key skills for postgraduate study

Allow approximately 10 minutes

What would you consider to be the 'key skills' required at postgraduate level?

You may wish to structure your thoughts and jot these down. We will return to this topic shortly.

Provide your answer...

Discussion

You may have noted down some of the following as key requirements:

- reflection and reflective analysis
- critical thinking, appraisal and evaluation
- ability to demonstrate advanced scholarship and research
- communication and presentation skills to suit purpose and target audience
- effective writing skills and proficiency in the use of the English language
- ability to demonstrate independent, self-directed learning
- ability to source (identify), retrieve, appraise and make use of a variety of scholarly and research literature to support your opinion, judgement or argument
- self-organisation, time management and planning
- ability to work collaboratively with others (e.g. within a group or as a team).

Many of these skills and competencies will probably be familiar to you from your previous studies for your first degree, particularly if you have successfully developed them as part of a Bachelor's with Honours degree. However, a key difference at Master's would be the level of proficiency in these and other skills and competencies expected of you, and those

that you will continue to develop as you make progress with your studies. Don't worry if you feel that you lack confidence in some areas – this is perfectly fine at this stage. After all, you are not expected to demonstrate full mastery of all of these skills *before* you begin your postgraduate studies! You should be aware that these are skills that you will continue to build on and develop throughout your chosen degree.

Students starting a postgraduate degree for the first time can sometimes feel overwhelmed. We want you to be well-prepared, to ease your transition to postgraduate study, and for you to have the confidence to build on and develop your capabilities, and avoid feeling overwhelmed. Having a clear idea of what is expected of a successful Master's degree graduate, and reflecting on the skills you need to develop, *before* you begin your postgraduate studies is invaluable. It will allow you to monitor and plan your own development needs as you make progress, and work towards achieving these goals.

5 Characteristics of Master's degree graduates

The UK Framework for Higher Education Qualifications (UK Quality Code for Higher Education) sets out the core attributes and characteristics of Bachelor's and Master's degree graduates (i.e. students who have successfully graduated from Bachelor's and Master's programmes). A Bachelor's degree typically prepares graduates for a higher level qualification involving research, to advance knowledge, skills and application gained, or for entry to professional practice. A defining difference between a Bachelor's with Honours degree and an 'ordinary' Bachelor's degree, other than the development of advanced knowledge, is the requirement for research and scholarship for an Honours degree (this could take the form of project work or an extended dissertation completed towards the end of the degree). However, the type of research or scholarship and the balance with coursework are likely to vary depending on the purpose of the qualification. What are the characteristics, skills and core attributes expected of a successful Master's graduate, and how do these differ from those of a Bachelor's with Honours degree graduate? Let's look at this in a little more depth before moving on to check your own development needs, and gauge your preparedness for postgraduate study.

Activity 3 Differences between Bachelor's with Honours and Master's degrees

Allow approximately 30 minutes

Read [Extract 1: Characteristics of Bachelor's Degree with Honours Graduates](#) and [Extract 2: Characteristics of Master's Graduates](#) and reflect on the following questions:

- What skills and core attributes would a Bachelor's with Honours degree graduate be expected to demonstrate?
- How do these differ from a Master's graduate (i.e. what other skills and attributes would a Master's student be expected to demonstrate after graduating)?
- Are there any skills or attributes that you would consider to be unique to Master's?

Try to make your notes as specific as possible. Refer to the extracts so it's clear which part you are writing about, but don't just copy out the contents. Condense your notes to formulate a conclusion that puts your views across clearly and concisely (in less than 500 words). Retain a copy of your conclusion, as you will refer to this again in Session 2.

Discussion

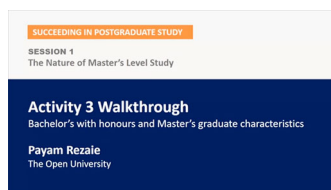
What was your first impression? Were there any surprises? Did you find it relatively straightforward or difficult to pinpoint differences clearly? Evaluating sources of information, providing a concise synopsis, a summary or a conclusion are skills that you need for postgraduate study, and this activity was a good place to start! You will often come across word limits or similar restrictions on the length of answers you are asked to provide within assignments, including essays. Being able to condense your thoughts and to put the main points across concisely is fundamental at postgraduate level.

5.1 Reflecting on Activity 3

Many of the skills and competencies learned as part of a first degree are further developed at postgraduate level, so overlap in some areas is to be expected. As you will probably have noted however, some qualitative differences are either further elaborated on or specific to Master's graduates. Key skills and attributes are typically assessed through defined learning outcomes on courses, and you will be able to build on and monitor these further as you make progress with your studies. Take a few minutes now to view this presentation, before moving on to the next section.

Video content is not available in this format.

[Session 1, slidecast 1: Activity 3 walkthrough](#)



A sample conclusion is provided below, and is included here for reference. Do note that this illustrates one approach that could be taken – it is not meant to be a ‘definitive’ answer, but one that could be used as a basis for reflection. How does this compare with your own evaluation? Remember to retain a copy of your written conclusion, as you will refer to this again in Session 2.

Box 3 Example conclusion

Part 1

How do the skills and attributes expected from a Master's graduate differ from those of a Bachelor's with Honours graduate?

The key skills and core attributes for both Bachelor's with Honours and Master's graduates can be broadly categorised under three headings: ‘Knowledge, Understanding and its Application’, ‘Critical Skills’, and ‘Practical, Professional and Employability Skills’. There is some overlap between levels, but this is to be expected – it reflects the transition from undergraduate to postgraduate, where skills and attributes learned previously will continue to be engaged, developed further and assessed at a more advanced level. The expectation, therefore, is of a continuous rather than a disjointed or ‘clear-cut’ learning journey. However, in reviewing the information provided in the extracts, several key differences emerged for Master's graduates:

- **Independent learning ability (required for continuing professional development).** A significantly greater emphasis appeared to be placed on the importance of independent learning ability, reflection and continued professional development for Master's degree graduates. ‘Independent Learning Ability’ could constitute a separate (i.e. distinct) qualitative criterion for Master's.
- **Critical skills.** Apart from independent learning ability, a prominent qualitative emphasis was placed on ‘contemporary’ critical skills (awareness and evaluation)

expected from a Master's graduate. This includes critical awareness of current issues, developments, and insights at (or informed by) the forefront of the academic discipline, field of study or professional area; the ability to critically evaluate current research, advanced scholarship, methodologies in the area, and where appropriate, to develop critiques and propose new hypotheses.

- **Knowledge, understanding and its application.** The emphasis on 'specialist' and 'advanced' knowledge and understanding was clear. Knowledge and understanding of a Master's graduate should be informed by current practice, scholarship and research, and expected to be in-depth, advanced, and at the forefront of the field or discipline. Master's graduates are also expected to be able to demonstrate originality in applying their knowledge, understand how the boundaries of knowledge are advanced through research, to have a comprehensive understanding of techniques applicable to their own research or advanced scholarship, as well as knowledge of professional responsibility, integrity and ethics.
- **Practical, professional and employability skills.** Those that stood out for Master's graduates (compared with Bachelor's with Honours graduates) emphasised the importance of acting autonomously in planning and implementing tasks at this level, being able to demonstrate self-direction and originality in tackling and solving problems, and to deal with complex issues systematically and creatively. These are high-level competency skills relevant to employment.

Part 2

Are there any skills or attributes that you would consider to be unique to Master's?

The following attributes particularly stood out for Master's (and are italicised for emphasis):

- knowledge of *professional responsibility, integrity and ethics*
- ability to demonstrate self-direction and *originality in tackling and solving problems*
- ability to deal with complex issues both *systematically and creatively*
- ability to *reflect on own progress as a learner, to continue to advance own knowledge and understanding, and develop new skills to a high level.*

Total word count: 448 words

[Conclusion 1: 382 words; Conclusion 2: 66 words]

6 Qualification Frameworks and Levels in the UK and in Europe

Our discussion and the examples so far in this session have focused on characteristics outlined by the QAA in the UK Quality Code for Higher Education. Table 1 shows how the various qualification frameworks and levels relate to each other in Europe, the UK and its constituent nations, and in the Republic of Ireland. Table 2 provides further context with reference to the European Qualifications Framework.

Table 1 Comparison of Higher Education Qualification Frameworks and Levels

Higher Education Qualification	EQF	FHEQ	FQHEIS	QCF	CQFW	SCQF	NFQIE
Master's degree	7	7	11	7	7	11	9
Postgraduate diplomas	7	7	11	7	7	11	9
Postgraduate certificates	7	7	11	7	7	11	9
Bachelor's degree with Honours	6	6	10	6	6	10	8*
Ordinary Bachelor's degrees	6	6	9	6	6	9	7
Graduate diplomas	6	6	9	6	6	9	6
Graduate certificate	6	6	9	6	6	9	6

Abbreviations: **EQF**: European Qualifications Framework; **FHEQ**: Framework for Higher Education in England, Wales and Northern Ireland; **FQHEIS**: Framework for Qualifications and Higher Education in Scotland; **QCF**: Qualifications and Credit Framework for England and Northern Ireland; **CQFW**: Credit and Qualifications Framework for Wales; **SCQF**: Scottish Credit and Qualifications Framework; **NFQ IE**: National Framework of Qualifications for the Republic of Ireland. (*) includes Irish Higher Diploma.

Source: based on QAA (2015b)

Table 2 Descriptors defining Levels 6 and 7 in the European Qualifications Framework

Level	Knowledge (Theoretical and Factual)	Skills (Cognitive* and Practical**)	Competence (Responsibility and Autonomy)
7	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research. Critical awareness of knowledge issues in a field and at the interface between different fields.	Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields.	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams.

6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles.	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study.	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development or individuals and groups.
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(*) defined as 'involving the use of logical, intuitive and creative thinking'

(**) defined as 'involving manual dexterity and the use of methods, materials, tools and instruments'

Full listing of descriptors available at: <https://ec.europa.eu/ploteus/en/content/descriptors-page>

For more on the European Qualifications Framework and further useful information see:
<https://ec.europa.eu/ploteus/en>

Source: adapted from EQF (2014)

7 Preparing for postgraduate study – evaluating your readiness

You should now be quite well-informed and familiar with some of the main demands, key skills and core attributes expected at Master's level. You will also have an appreciation of how levels and qualification frameworks in the UK and Europe relate to each other. So, let's recap briefly on what you will need to do. To study successfully at postgraduate level, you will need to be able to:

- find and read research material (primary and secondary sources) at the forefront of your field of study or discipline area
- critically analyse, evaluate, and effectively communicate findings, theories and methods
- follow academic convention when presenting findings and ideas, citing your sources
- plan, organise and manage your study time effectively
- reflect on your learning and development needs.

You will also need to pay particular attention to any further detailed information about entry requirements for your intended qualification, which may include:

- other knowledge and skills you might need (such as level of English, if this is not your first language)
- requirements relating to the context of your study (for example, Education students may need access to a group of learners; Healthcare students may need access to a healthcare setting)
- advice about routes through the qualification, and time limits for completion
- information regarding credit transfer arrangements or prior knowledge and experience.

Activity 4 Checking how well you are prepared for postgraduate study

Allow approximately 10 minutes

- Evaluate how well you are prepared for postgraduate study by downloading and completing the [academic and professional skills checklist](#).
- Identify specific areas that you'd like to focus on and develop further at this stage.

Keep this checklist close to hand as you proceed through this course. It will help you to evaluate your skills development and facilitate your transition from undergraduate to postgraduate study. You'll be prompted to review your progress in relevant skills at the end of each session.

8 Top tips for success – comments from students

We asked some Master's graduates what advice they would give to those who want to succeed in postgraduate study. The comments they provided (below) offer further insight, and should help to guide you in preparing for your own studies:

- **Plan ahead and manage your time effectively.**
- **Create a routine and try to stick to it.**
- **Make efficient and judicious use of the time you have available for study.**
- **Avoid procrastinating.** Don't put off your studies or complete assignments at the eleventh hour.
- **Exercise your judgement.** Make sure that you deal with the core study material (core reading and other study resources) first, before venturing further and reading around the subject.
- **Take frequent short breaks.** Working non-stop over long periods affects your health, and will dampen your enjoyment.
- **Try to balance your studies with your work and lifestyle.** Make sure you also set aside time for friends, social activities, hobbies and other personal interests – you do need time to unwind and re-energise.
- **Focus on your goals.** Focus on your immediate goals (a deadline, activity, assignment) and your longer term goals (the end of your course or your graduation), and consider where your studies are leading you. Life happens! Keeping your aim firmly within your sights will encourage you to remain on course, even when things get difficult, see your studies through and help you to succeed.
- **Talk to your tutor (academic supervisor) and seek advice if you have any difficulties.** Maintain regular contact with your tutor, seek advice, take on board and act on their feedback – your tutor is an essential point of contact; they offer invaluable advice and are there to support you with your studies.

9 Managing your study time

Time is a precious commodity. Being able to manage your study time effectively is a core requirement at postgraduate level. Not surprisingly this is a prominent focus for comments from students and usually takes pride of place in the rankings among the top tips for success (as we saw in Section 8). It's all well and good to hear, and to know about the importance of juggling priorities, other commitments and maintaining your work–study–life balance, but what practical advice is there – what strategies can you use to successfully manage your time? The following guide offers some advice and tools that may help you.

9.1 Find a strategy that works well for you

Most students have busy lives which conflicts with their study plans, and everyone suffers from the occasional lapse in motivation, even when they are not busy. Students often find that they will use several different approaches to time management, depending on other demands and their experience of what works best. There are many resources and tools available on the internet, and a number of applications for mobile devices that are designed to help you manage your time (at the end of this session we will provide you with a link to further reading and resources. There you will find some useful links – under the heading 'external resources'). You will probably already have a strategy that works best for you. If not, it's time to take action!

9.2 Plan your time – look ahead, find out what you need to do and when

Make sure you are very familiar with your course and its requirements. Take a look at the study guide, study calendar, planner and assessment schedule for your course. Ask yourself what you need to do to pass the course, and by when. What are the learning outcomes? How much time do you need to allocate to your studies? When are the assignment deadlines (or 'cut-off dates')? Are there any particular demands or time-constraints that you need to be aware of (a particular tutorial, activity or assignment that is time-bound – running over a defined period, and requires you to actively participate). Identify these well ahead and block out your time!

Most undergraduate level study includes fairly long breaks between terms, usually about a third of the year, but Master's level study may require you to work throughout the year, so you need to account for this when planning your holidays. Plan ahead by creating a schedule that includes your major commitments (relating to study, work, and personal or social life) for the duration of your course. You could use a study calendar for this, adding your other commitments to it. Make sure that you plan for contingencies (in case you fall behind and need to catch up), consider emergencies and don't forget your holidays. The recommended study time is around 100 hours for each 10 points of a course. So work out how much study time you need to put aside and review this regularly as you go through your studies. Do the most difficult work when your concentration is strongest (the time of day is important, so if you are not a 'morning person', it's probably best to avoid studying then, and leave this to later on in the day!) Take regular breaks, perhaps every hour. Be

flexible – reflect on whether your study pattern is successful, and if you do need to change your schedule, then give this a go, and try something different, perhaps by studying at a different time of day.

9.3 Prioritise your tasks and identify how you spend your time

You can use the [four-square grid](#) to help you prioritise your tasks according to importance and urgency, and identify and work on the tasks that are important and urgent first. You should also review your weekly commitments and work out how many hours of study time you have available each day and for the week. The activity template (which you can access from the link below) will help you to identify how you spend your time and how much time you have available for study each week.

Activity 5 Planning and managing your study time effectively

Allow approximately 20 minutes

- Use the [activity template](#) to review your weekly commitments and work out how many hours of study time you have available each day for the week ahead.
- Develop a study plan for this course to help you manage your study time effectively, and achieve your study goals.

9.4 Find a suitable place to study

Have a system in place that works for you. You need somewhere to study and somewhere to keep your study materials and related files. You'll nearly always need access to a computer, but may find you can listen to an audio recording in your car, or study on the train or the bus, for example, if this works for you. An increasing emphasis on independent study at Master's level means that being able to get online to work is likely to be even more important than it was at undergraduate level.

9.5 Focus on your study goals

Part of your learning strategy should be to identify your long-term goals relating to your studies and then plan accordingly. But even on a short-term basis you can plan effective study. Ask yourself the following:

- What shall I do with the study time I've put aside today?
- What is important today for this week's goals?
- Would I be better off if I studied a section of my course, or worked out the tasks I need to do to complete my assignment?

Think about your short-term goals, such as completing an assignment. Try to divide your work for an assignment into manageable chunks that you can schedule into the study

sessions you have available. Breaking up a large task like this also helps your motivation, so you can get started on a particular task. By setting goals and getting used to working to a plan you'll find it easier to stick to your study schedule.

9.6 Use weekly schedules and to-do lists

Weekly schedules (like the activity template you have completed) can help you to see how much time you have available to study. You can also write in those times when you'll be working, or spending time with the family, for example. You may need to reorganise how you use your time in order to fit sufficient study hours into your week.

Use daily or weekly 'to do' lists to help you to plan and prioritise. These can help to clear your mind and clarify what is really important for your studies, but they can also result in you making a commitment to yourself that you will do what you have planned and listed. It can be satisfying to tick off the tasks you've completed on a list.

Remember that planning does not guarantee that everything will get done or that deadlines will be met, but the process of making a plan helps you focus on what the task entails and gives direction and purpose to your study.

9.7 Prepare an action plan

An action plan can help you to identify what you want to achieve in the long term, and think through the steps you need to take in the short term to achieve this. This can make it easier to help you realise your goals. Your action plan could include these elements.

- My goal.
- What do I need to do to achieve it?
- How can I achieve it?
- What resources will I need?
- When must I take action?

An action plan can be just a list of things to do, a chart giving deadlines, a diagram showing how the various parts of your plan interact, or a set of sticky notes on a sheet of card that you move around when each task is done. If you break down the overall task into a series of smaller targets, you can chart your progress in more detail. It's useful to have a way of recording your progress as well as a list of any sources of help that you need.

9.8 Deal effectively with distractions and procrastination

It can sometimes be difficult to get down to your studies because you have distractions to deal with, and you may find that you put off a study task. Distractions can be real (e.g. your work takes precedence, or a child or other family member needs your attention), but they can also be displacement or replacement activities. Some people say that they work best under the pressure of a tight deadline. But is this way of working really productive? Does it work for you? You might find you produce better work under less stress!

- Set realistic goals for your study session (e.g. 'I'll read this section, or work for 40 minutes, before I make that coffee').
- Aim to minimise interruptions (e.g. put on your answerphone, ask friends and family not to disturb you, turn off e-mail, social networking and any other distractions).
- Remember that it is best to try and have short-term deadlines that you stick to for significant study activities, such as completing an assignment by the cut-off date.
- Try not to feel that you need to produce the perfect assignment or project.
- Avoid taking on too many commitments – learn to politely say 'no'.
- Learn to prioritise your tasks.
- Make a deal with yourself (e.g. 'Okay, I'll go to the pub with my friend tonight, but this means that I'll need to get up early on Sunday to study instead').
- Just do it! You may find that the task doesn't take as long as you expected and you'll feel much better for getting it out of the way.

9.9 Make the best use of time you have available

If things aren't going to plan, don't get discouraged. Instead, consider ways of using your limited time to the best advantage. Pareto's Principle (or the '80/20 rule'), says that 80% of the result can usually be gained by concentrating on the most important 20% of the task. Regularly check your study calendar – be aware of approaching deadlines so there are no surprises. Mark or highlight parts of your reading which are holding you up and move on past them – return to them when you have read more, because generally it will make more sense. Attend set tutorials and make sure that you visit any online forums – learning with fellow students and being guided by the tutor adds depth to your study, and it helps you to see that you are not alone. Write out the next assignment question – use it as a bookmark and keep it in front of you while you're reading, so your notes are focused and relevant. Highlight and make a note of references you'll need in an assignment as you go along – this can really save time later. Tell your tutor or study adviser of any difficulties you are experiencing – they will be pleased to offer help and guidance. Make active choices – accept that you may have to compromise in your study and, if necessary, cover only the essentials. This keeps you in control, even if your marks are not as good as they could be with more time. Talk to your family and friends – perhaps they can offer support (e.g. help with child care, walking the dog etc.), or read your drafts and listen to your ideas.

When time is tight, decide what is not going to be done – or will have to be done differently – by adopting the 4Ds approach:

- Do it.
- Dump it.
- Delegate it.
- Do it less well.

9.10 What if you fall behind?

Nearly all students get behind at some point, so don't panic. Contact your tutor or study adviser – they are there to support you and offer advice.

- Ask for advice as soon as you realise there is a problem.
- If a particular aspect of the study is slowing you down, speak to your tutor, who may be able to clarify things for you.
- If you can't make it to a tutorial, let the tutor know beforehand and ask for a copy of any notes provided.
- If your circumstances are such that you are considering giving up, do talk to your tutor or study adviser first. One possible solution could be to defer study until a later date, but this could affect your future plans and financial commitments.

10 The nature of distance learning

Master's study

In this final section, we will introduce you to some aspects of studying for a Master's by distance learning, consider some misconceptions about distance education, and end with a visual summary on the nature of distance learning Master's study.

The presentation below provides an overview of distance and online learning (what this involves, how it works), looks at the benefits of flexible study, and considers some of the pros and cons, and the pressures of studying online. View this now, before moving on to the next session.

Video content is not available in this format.

[Session 1, slidecast 2: Distance learning Master's study – what does it involve?](#)



10.1 Some misconceptions about distance and online learning

- **You study on your own with no support.** NOT TRUE: You will have time for independent study, but you will also have the opportunity to take part in discussions, tutorials and other online activities (including collaborative assignments) run using a virtual learning environment. You will be interacting with other students and your tutor on forums, and using online communication tools such as video conferencing or social media. You will be supported by a tutor (academic supervisor or study adviser) and have access to student services throughout your studies – support will be available to you when you need it. Because you won't have the face-to-face interaction doesn't mean you can't speak to your tutor: you can contact them through email, phone or online.
- **There is no sense of community and no social life.** NOT TRUE: You will be a part of a community of learners, studying within a tutorial group. You can make friends online, set up study groups online, and engage socially with other students who will be in the same boat as you, studying the same discipline. There will be plenty to talk about! You can also get involved in professional networks, online student societies, and get to know students of different ages, backgrounds, interests and experiences from around the world.
- **Distance learning is only for older people.** NOT TRUE: Attitudes towards online and distance education have continued to change over the past decade. People of all

ages (including those in their 20s!) are seeing the benefits of studying for a Master's degree part-time, as a realistic alternative to a 'traditional' university experience.

- **Online Master's courses have less value and are easier to get on to than courses run at traditional 'brick and mortar' universities.** NOT TRUE: All Master's degrees have specific entry requirements which applicants have to meet before they can be admitted. Online degrees offered by validated course providers have to meet the same rigorous quality assurance standards, involving external assessors and examiners, in addition to any specific professional body requirements, that would be expected of any higher education institution with degree-awarding powers (regulated in the UK by the Quality Assurance Agency). Brick and mortar universities are increasingly offering blended (face-to-face and online) learning options, as well as online-only degrees.
- **Online Master's courses are easier.** NOT TRUE: Online courses are just as difficult, and can even be more challenging than campus-based courses – they have their own particular skills requirements (digital literacy and ICT skills), and sets of pressures (including planning and organisation, time management, and commitment).
- **I can work entirely at my own pace.** NOT TRUE: While there is a great degree of flexibility in how you manage your own study time, online courses deliver structured learning, and are run over a defined period. You will still need to meet assignment deadlines, attend synchronous (i.e. real-time) online tutorials, and sometimes take part in forum exercises and other assessed activities which are not synchronous, but *are* timetabled (i.e. scheduled at specific times), so do expect to plan and manage your time well.

11 This session's quiz

The end-of-session quiz gives you the opportunity to check your understanding and progress. It consists of three questions and will help you to prepare for the longer Session 4 badge quiz.

[Session 1 quiz](#)

Open the quiz in a new tab or window (by holding ctrl [or cmd on a Mac] when you click the link).

12 Summary and reflection

You can use this visual summary to review topics that were discussed in this session. Visual summaries like this one offer a valuable means of revisiting and reflecting on a topic, and can be powerful study tools. We will explore this further in Session 2.



Figure 1 A visual summary: the nature of Master's-level study and distance learning.

We have provided you with a [larger version of this image in PDF format](#).

13 Closing remarks

This brings Session 1 to a close. We have suggested some [further reading and other resources](#) that you may find useful. You might like to take a look at some of these after completing this course.

In the next session we will consider the importance of reflective thinking and reflective learning, and discuss some of the conventions, characteristics and demands of academic writing at postgraduate level.

You can now go to [Session 2](#).

Session 2: Reflective thinking, reflective learning and academic writing

Introduction

Welcome to Session 2. In this session we ask 'what is reflection?' and explore some of the key features, models and core concepts of reflective thinking. We also discuss how reflection can be used as a strategic study technique, and take a look at tools to support reflective learning. We then move on to examine some of the conventions, characteristics and demands of academic writing and the level of proficiency in the English language typically required for postgraduate study.

By the end of this session you should be able to:

- understand the importance of reflection and reflective practice at postgraduate level
- recognise some of the conventions, characteristics and demands of academic writing.

1 What is reflection?

As a term used in academic and professional contexts, 'reflection' broadly encompasses 'reflective thinking', 'reflective learning', and 'reflective practice'. As you will recall from Session 1, the ability to demonstrate self-direction, reflect on your own progress as a learner, to continue to advance your own knowledge and understanding and develop new skills to a high level, are all key postgraduate requirements.

You will be responsible for your own development as an autonomous learner, by thinking about what you do well, what you need to improve, and setting your priorities. Reflection therefore plays a crucial role in your learning and self-development at Master's level.

However, all too often, the assumption is that reflection is a 'skill' that is acquired *automatically* during a degree. As with other areas of competence, you need to be actively aware of, to develop, and practice the habit of reflection, until it becomes almost second nature. Successful professionals from all walks of life (including academics!) actively engage in reflective thinking, reflective learning and reflective practice in their everyday activities. Life experiences such as a marriage, divorce, bereavement, the loss of a job or start of a new career, often act as a prompt for reflection, but how often do you actively

engage in reflection for learning, and for professional development? Let's pause to consider these concepts a little further.

Activity 1 Reflection as a process

Allow approximately 5 minutes

Based on your own knowledge and experience, what would you say the process of 'reflection' typically involves? Focus on the *process*, not the *outcome* at this stage.

Note down your own thoughts; you may find it helpful to list these.

Provide your answer...

Discussion

Here are some thoughts on this. These are not exclusive – you may have noted others.

The **process** ('reflection') might typically involve:

- thinking with a purpose
- introspection (looking within oneself, examining one's conscious thoughts and feelings)
- questioning and probing
- evaluating prior knowledge, beliefs, assumptions or learned experience
- making judgements and drawing conclusions.

2 What is reflective thinking?

'Reflective thinking' may appear an abstract concept – how can it be explained? To help understand the broader concept, a simple way in which reflective thinking can be defined is: *consciously* thinking about and analysing:

- what you are currently doing
- what you have previously done
- what you have experienced
- what and how you have learned.

At its core, 'reflective thinking' is the notion of awareness of one's own knowledge, assumptions and past experiences. Your past learning and experience provide the context for your thoughts, and are therefore unique to you, but reflective thinking is a dynamic process that continues to develop and evolve as you learn and respond to new experiences, situations, events or information. In practical terms, this is the process where you interpret and evaluate your experiences, check that they make 'sense' to you, create meaning, justify actions and solve problems, and it helps with your future planning (see Figure 1).

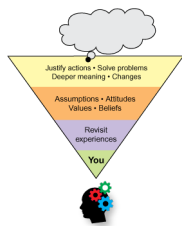


Figure 1 Reflective thinking (adapted from Syed, Scoular and Reaney, 2012)

Dewey's (1903, p. 9) notion of 'how we think' as being an 'active, persistent and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it and the further conclusions to which it tends' provides the foundation for understanding reflective thinking and reflective practice.

Box 1 'Reflective' and 'critical' thinking: a note concerning use of terms

You may find that the terms 'reflective thinking' and 'critical thinking' are sometimes used interchangeably in the literature. As forms of reflective enquiry, 'reflective thinking' and 'critical thinking' are certainly closely linked. They are active, structured, and systematic processes that denote levels of thinking beyond other activities that you might engage with day to day. We explore reflective thinking in this session, and will discuss critical thinking and critical analysis separately in Sessions 3 and 4.

Reflective thinking explores different reasons for, considers the potential implications of, and is influenced by an individual's attitudes or practices. It is a process that allows you to make meaning of an experience, involves analytic and critiquing elements, and can be articulated through spoken, written or other forms of expression. 'Analysis' in this context is the process of breaking a complex topic into smaller parts to gain a better

understanding of it, and 'critiquing' involves a questioning approach to knowledge, checking assumptions. An individual who engages in reflective thinking will question their own assumptions and understanding, and think about issues from a variety of perspectives. This type of 'higher-order' thinking *can be developed through practice*, but it involves understanding, internalising and applying some key concepts to evaluate your own learning.

'Reflective practice' is widely considered to be important for professional development and vocational learning. It is a process where the 'reflective practitioner' stops to think about their practice, consciously analyses their decision-making, draws on theory and evidence, and relates this to what they do in practice. The term derives from the works of Dewey and Schön. Dewey (1910) said that reflective practice 'enables us to direct our actions with foresight ... it enables us to know what we are about when we act'. Schön (1983) expanded this to include two aspects: reflection-in-action and reflection-on-action.

- **Reflection-in-action** refers to the quick thinking and reactions that occur as you are engaged in an activity. Your reflection-in-action allows you to observe a situation, consider why it is happening, and respond by doing it differently.
- **Reflection-on-action** is what occurs when you consider the activity again. You may think more deeply about the reasons, what caused the situation, what options were open to you, why you chose one option and not another. Your responses will depend on your existing level of knowledge and experience, your understanding of theories and your values.

3 Key features of reflection

Reflective thinking requires you to recognise, understand and to define the valuable knowledge and experience you bring to each new situation, to make the connections based on your prior learning and experience (your 'insight'), and bring these to bear in the context of new events. You become an actively aware and critical learner through this process. As Figure 1 showed, this process starts with you – you need to examine and identify your own baseline position by revisiting your prior experience and knowledge of the topic you are exploring, and consider how or why you think the way you do. Examining your beliefs, values, attitudes and assumptions in this way forms the basis of a deeper understanding and higher level of learning required at Master's level and for professional practice.

What are the key features of reflection?

- **Reflection results in learning:** It can change your ideas and understanding of the situation.
- **Reflection is an active and dynamic process:** It can involve reflecting 'on' action (past experience), reflecting 'in' action (on an incident as it happens), or reflecting 'for' action (actions that you may wish to take in the future).
- **Reflection is not a linear process, but cyclic:** It leads to the development of new ideas which can be used to plan the next stages of learning.
- **Reflection encourages looking at issues from different perspectives:** It helps you to understand the issue and scrutinise your own values, assumptions and perspectives.

4 Models of reflection – core concepts for reflective thinking

The theories behind reflective thinking and reflective practice are complex. Most are beyond the scope of this course, and there are many different models. However, an awareness of the similarities and differences between some of these should help you to become familiar with the core concepts, allow you to explore deeper level reflective questions, and provide a way to better structure your learning.

Boud's triangular representation (Figure 2) can be viewed as perhaps the simplest model. This cyclic model represents the core notion that reflection leads to further learning. Although it captures the essentials (that experience and reflection lead to learning), the model does not guide us as to what reflection might consist of, or how the learning might translate back into experience. Aligning key reflective questions to this model would help (Figure 3).

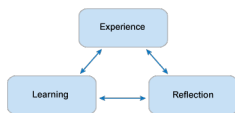


Figure 2 Boud's triangular representation

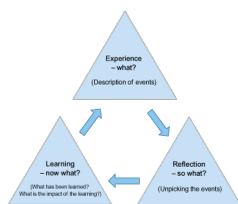


Figure 3 Key reflective questions

Gibbs' reflective cycle (Figure 4) breaks this down into further stages. Gibbs' model acknowledges that your personal feelings influence the situation and how you have begun to reflect on it. It builds on Boud's model by breaking down reflection into evaluation of the events and analysis and there is a clear link between the learning that has happened from the experience and future practice. However, despite the further break down, it can be argued that this model could still result in fairly superficial reflection as it doesn't refer to critical thinking or analysis. It doesn't take into consideration assumptions that you may hold about the experience, the need to look objectively at different perspectives, and there doesn't seem to be an explicit suggestion that the learning will result in a change of assumptions, perspectives or practice. You could legitimately respond to the question 'what would you do or decide next time?' by answering that you would do the same, but does that constitute deep level reflection?

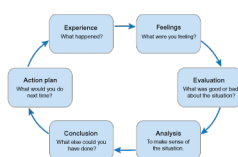


Figure 4 Gibbs' reflective cycle (adapted from Dye, 2011)

Atkins and Murphy (1993) address many of these criticisms with their own cyclical model (Figure 5). Their model can be seen to support a deeper level of reflection, which is not to say that the other models are not useful, but that it is important to remain alert to the need to avoid superficial responses, by explicitly identifying challenges and assumptions, imagining and exploring alternatives, and evaluating the relevance and impact, as well as identifying learning that has occurred as a result of the process.

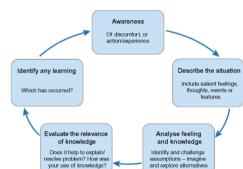


Figure 5 Atkins and Murphy's (1993) cyclical model

You will explore how these models can be applied to professional practice in Session 7.

5 Reflective learning – reflection as a strategic study technique

Like many other aspects of study, reflective learning is highly individual. Rather than thinking of reflection as yet another task to be added to your 'to do' list or squeezed into a busy study schedule, view it as something to practice at any stage. The emphasis is on *being* a reflective learner rather than *doing* reflective learning. Get used to reflecting on your experiences as part of your everyday learning. In this way, each experience – whether positive or negative – will contribute to your development and personal growth. You can record your reflections in a learning journal or in another format (such as audio recordings). It is therefore worth noting the following:

- see reflection as complementary to your study
- use it to clarify your thoughts and focus on your personal and professional development
- record your thoughts on any difficulties or challenges you are facing
- think about strategies that might help you deal with difficult tasks or assignments
- use it to help you think about how topics relate to your own experience.

Developing a habit of reflective learning will help you to:

- **evaluate your own progress**
- **monitor and manage your own performance**
- **self-motivate**
- **keep focus on your learning goals**
- **think differently about how you can achieve your goals** by evaluating your study techniques, learning strategies and whether these best fit your current needs, identifying your skills development needs or gaps in knowledge
- **think about and overcome what may be blocking your learning** by using a different approach, or setting more pragmatic (realistic/achievable) goals
- **support and enrich your professional practice** ensuring that you are better placed to respond to and manage new, unexpected and complex situations – a key requirement at Master's level.

Remember that applying reflective learning *effectively* does take time. Don't expect everything to immediately fall into place, particularly if you have been away from formal education and have not engaged with continued professional development for some time. It takes commitment and discipline to set aside time for reflection, and there are challenges, including distractions (more compelling activities), feelings (uncomfortable or unexpected emotional responses to conclusions reached about own role, assumptions and beliefs, for example), and the nature of the process itself (you may be well-acquainted with one aspect of reflective learning, such as responding to and acting on feedback received from tutors or your peers, but the ability to balance a critique of experience with academic and professional requirements might not be familiar to you). Reflective thinking however, cannot be taught – it needs to be practiced. Reflective learning forms part of your personal and professional development. Personal Development Planning (PDP) is

increasingly viewed as a requirement at postgraduate level, and you should check your intended course or qualification for any specific guidance on PDP.

6 Tools to support reflective learning

There are different tools and methods for reflective learning. Common tools include:

- **learning journals, diaries, log books and personal blogs** – your thoughts in written prose
- **lists, bullet points, tables** – your thoughts summarised in note form
- **audiovisual recordings** – documenting your voice or using video recordings
- **visual representations** – mind maps, diagrams, sketches.

Journals and learning diaries require you to write weekly entries, and you can base your reflection on course content. A log book (or a 'lab' book) is often used in disciplines based on experimental work, such as science. A log gives you an accurate record of a process and helps you to reflect on past actions and make better decisions for future actions. Reflective notes are often used in law, and encourage you to think about your personal reaction to legal issues that have been raised. Other methods of reflection include peer review, which involves students sharing their work with peers for feedback, and self-assessment, which requires you to comment on your own work. We will focus here on two methods that are frequently used to support reflective learning: learning journals and mind maps.

6.1 Learning journals

The situation - what happened; how did I think, feel and act?	I meant to start work on my TMA02 today but kept finding other things to do. After 2 hours, I still had not written anything.
Why might things have happened that way?	When I thought about it, I realised that I was worried about whether my tutor would see any improvements on my first TMA. I really want to show I'm taking her feedback on board.
What might I have done differently? What should I try next time?	I could have thought about my tutor's positive comments. I could be more determined to use my study time as I plan to - I could even promise myself a 'treat' if I meet a goal like writing a draft of a TMA.

Figure 6 Example template for a learning journal

A learning journal encourages you to reflect on your learning in relation to specific activities (e.g. an assignment, a development framework, a topic of study), and can be used for different purposes including project development, experiential learning and personal development planning.

Use specific questions to structure your reflective thinking. You can adopt a structure for each entry, which could include the topic, activity or setting and date, the learning objectives, and key critical notes on your reflections about what you did (experienced, observed etc.) and what and how you have learned. Keep your portfolio up to date, and review, reflect on, evaluate and record your progress. Monitor your performance, relating the activity to your coursework, for example, by making constructive use of any feedback received from your tutor, acting on this to improve your existing work or future assignments by considering how you would do things differently.

- Update your learning journal regularly, even if individual entries are sometimes short.
- Focus on a specific activity, issue or a topic for an individual entry – think about how you could address or resolve the issue, or what you'd like to improve (e.g. your understanding of a concept).
- Use questions or prompts to help you focus on the task.
- Avoid descriptive writing – take an analytical approach.
- Review your entries, identify themes and recognise the longer-term action you might need to take (for example, to improve a particular study skill).

Remember that writing itself can be used as a learning tool. You can use writing to explore ideas as a way of understanding them. The template is provided just as an example – you can structure your learning journal according to your own requirements. Your journal could include other entries that may be relevant to your reflective learning. These could include 'purpose', 'outcome', 'focus', 'method', 'theory', 'audience' and other entries. The important thing is to ensure that you have used the key reflective questions (Figure 3) to evaluate your learning (What did I learn? What was my experience?), to reflect on your learning at a deeper level (What does it mean for me in the context of my previous learning?), and to use that understanding to develop further (What has been learned? What is the impact of the learning? What will you do differently as a result of your learning?).

- Think back over your learning and experience.
- Understand these at a deeper level.
- Use that understanding to do things differently in the future, to effect change through learning.

6.2 Mind maps

Mind maps are also known as concept maps or 'spider' diagrams. These and other visual representations involving diagrams, sketches, cartoons and the use of colour, are useful creative tools that help to structure, categorise and make connections between ideas. They steer away from 'linear' thinking, provide you with an overview of key concepts and their connections, and help reflective learning become visually engaging, dynamic and memorable. Mind maps are also useful tools for structuring your thoughts for an assignment, and for planning and drafting essays, reports, projects and dissertations. They will help to motivate you, and get your academic writing off to a good start. You can

use this technique to relate relevant ideas and information from study materials and other resources to each other as you study, or to summarise and reflect on your knowledge and understanding, and research on a particular topic at the end of a block or unit of study. Your mind map will grow and evolve to reflect your own learning, as you make progress with your studies. View this brief presentation to learn more about this technique.

Video content is not available in this format.

Session 2, slidecast 1: tools for reflective learning – mind maps



Pause briefly here to reflect on your learning by completing Activity 2 below.

Activity 2 Active reflection

Allow approximately 5 minutes

Consider the following questions:

- What has been the most useful thing that you have learned so far from Session 2?
- What one question remains uppermost in your mind, and why?
- In what way is what you have learned in this session relevant to your personal life or professional practice?

Provide your answer...

7 Academic writing – general principles

Academic writing is more formal than reflective writing and requires a specific set of skills, as well as proficiency in the use of English. If you have taken a career or study break and have been away from formal education for some time, or if English is not your native language, then you would probably benefit from developing your skills further in this area.

What do we mean by ‘formal writing’ at postgraduate level?

- Work needs to be grounded and supported by appropriate (informed and credible) sources.
- The language used is more tentative or cautious (fewer ‘absolute’ statements).
- Colloquial terms and contractions (don’t, won’t, shouldn’t, etc.) are avoided.
- Ideas from others need to be attributed accurately (cited and referenced appropriately).
- Writing needs to be structured logically, with clear expression of thought.
- It needs to show a deeper, more critical engagement with the subject matter.
- There should be clear evidence of your extended reading and understanding of the topic.
- Writing at the very highest level, approaches the style you would read in a scholarly publication, such as an academic journal.

Box 2 Tips on writing assignments

Follow this seven-point procedure for writing assignments (adapted from Cottrell, 2013).

1. **Clarify the task:** Examine the assignment brief carefully and determine the exact requirements. Pay particular attention to any guidance notes.
2. **Collect and record information:** Be selective and use your judgement when gathering information. Check word limits.
3. **Organise and plan:** Careful planning helps prevent repetition, clarifies your thinking, and helps you organise the material.
4. **Engage, reflect, evaluate:** Is it clear to you why this task was set? Do you have enough evidence and examples? Has your viewpoint changed? What arguments or evidence oppose your point of view? Are they valid? Have you clarified your argument?
5. **Write an outline plan and first draft:** Structure your writing, include section headings. Work out the order to introduce each point.
6. **Work on your initial drafts:** Develop and improve your first draft. Make sure your argument is clear to the reader. Check that you have included examples and evidence to support your points. Check that you have cited and referenced every source of information you have used. Check your work against specified learning outcomes and assessment criteria and make sure you have met these. Rewrite your early drafts – leave time between these to allow you to further hone, develop and fine-tune your thoughts.
7. **Prepare your final draft:** Edit, check and proofread your final draft. Correct errors and improve the flow of writing. Read it out loud to check that your writing is clear.

8 Understanding the assignment brief

When faced with an assignment, ask yourself the following: Do you know what the assignment is asking you to do? Are you certain that you know how to interpret the question that has been set (i.e. what approach you are expected to take)? Understanding the assignment brief and interpreting the question correctly are essential requirements.

Assignment keywords can inform you about topics, resources or a particular area that you should focus on. These 'content' words tend to be nouns. Other keywords and phrases instruct you on the approach that you should take in answering the assignment, often expressed as imperatives such as 'Assess the impact of...' or 'Explain the importance of...'. These are 'process words' or 'command verbs'.

[Table 1 Keywords \('process words'\) and phrases frequently used in assignment questions](#) highlights some important process words and phrases that are frequently used in assignment questions. The table also indicates the style or approach expected for the piece of writing. While the explanations provided here are *generally* accepted, you should consider process words in the context of the question as a whole. If you are in doubt about the wording of a question, you should consult your tutor. Box 2 in the previous section has further useful tips on writing assignments.

Activity 3 An effective assignment

Allow approximately 10 minutes

In your view, and based on what has been discussed so far in this session, what do you think an effective assignment (piece of academic writing such as an essay or dissertation) should demonstrate at postgraduate level?

Write down your thoughts. You may wish to use a mind map for this activity.

Provide your answer...

Discussion

We don't expect you to have noted everything down! You may have picked up on a few of these points however, and we will be exploring these further a little later on, but do take the time to reflect on the following at this point.

An effective assignment (piece of academic writing at postgraduate level) would:

- show that you understand the subject and have addressed the learning outcomes
- show you have answered the question being asked and interpreted this correctly
- meet the requirements of the assignment (the assignment brief) fully
- be focused and well-structured and written in a coherent manner, with sentences and paragraphs that link logically
- use different theories, examples, arguments and perspectives to create a discussion of the topic
- show that you have read more widely and engaged with the subject at a deeper level
- be referenced correctly in the style of your discipline
- use formal language with correct use of grammar, punctuation and spelling
- express your arguments clearly and concisely

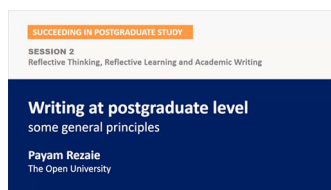
- adopt a style and 'academic voice' (tone) that is suited to the task and target audience.

9 Writing at postgraduate level – general characteristics

Different disciplines will have certain conventions, vocabulary and types of discourse that you will need to become familiar with over the course of your degree. There are, however, some general characteristics of academic writing that are relevant across disciplines. We will examine these further in the presentation below.

Video content is not available in this format.

Session 2, slidecast 2: writing at postgraduate level – some general principles



Activity 4 Reflecting on your writing

Allow approximately 20 minutes

Look again at the writing you produced for Activity 3 in Session 1. The activity required you to summarise information that was provided to you, and to condense this to formulate a written conclusion that put your views across clearly, concisely, and in your own words.

- How well did your writing meet this brief?
- In what ways did your writing conform to the 'general' academic requirements discussed in this section?
- In what ways could your writing be improved?

Provide your answer...

You can view an example that we have prepared for reference:

[Example conclusion from Session 1 Activity 3.](#)

10 Academic language – useful phrases

The [Academic Phrasebank](#) is a valuable online resource developed by John Morley at the University of Manchester to support academic and scientific writing. Phrases and the headings under which they are listed can be used to help you to think about the content and organisation of your own writing. The resource covers general language functions in the following key areas:

- being critical
- being cautious
- classifying and listing
- comparing and contrasting
- defining terms
- describing trends
- describing quantities
- explaining causality
- giving examples
- signalling transition
- writing about the past.

You can [read more about the Academic Phrasebank](#). We suggest that you do this after you have completed this course. For now, continue to the following section and then complete the final activity of this session (Activity 5).

11 English language requirements at Master's level

The level of proficiency (or competence) in the use of English required at Master's level may vary by programme, and you should always check your intended qualification details for specific requirements. However, broadly speaking, if English is not your first language, you will need to provide evidence that your spoken and written command of English is adequate for the programme for which you are applying. This is to ensure that language is not a barrier to your academic progress or social engagement and integration with other students during your studies.

The International English Language Testing System (IELTS-Academic Version) is frequently used to gauge proficiency in the use of Academic English. This system tests performance in written and spoken language skills across four categories: (i) task achievement, (ii) coherence and cohesion, (iii) lexical resource, and (iv) grammatical range and accuracy. The 'typical' requirement at Master's level is to have achieved an *overall* test score of 6.5 (65%) or higher, and usually not less than a score of 5.5 in any category in this test. The IELTS band descriptors are provided in Table 2, for reference. Table 3 shows a comparison of the IELTS score (equivalent requirements) with other formal English language testing systems commonly accepted by higher education institutions in the UK. However, you should be aware that different courses may require different levels of achievement in specific qualifications, and you should check the requirements for your intended programme.

If English is your native language, or you have demonstrated proficiency by completing your first degree in English, you would normally be expected to be able to operate at a level that is suitable for transition to Master's study. This would imply that you have 'effective' to 'full' operational command of the language. If you are uncertain, then do check with your institution.

Full descriptors for writing (tasks 1 and 2) and reading are available on the [IELTS website](#).

Table 2 IELTS band descriptors (summary)

Band	Descriptor	Proficiency
9	Expert user	Has full operational command of the language: appropriate, accurate and fluent with complete understanding.
8	Very good user	Has full operational command of the language with only occasional unsystematic inaccuracies; misunderstandings occur in unfamiliar situations; handles complex detailed argumentation well.
7	Good user	Has operational command of the language, though with occasional inaccuracies, inappropriacies and misunderstandings in some situations; generally handles complex language well and understands detailed reasoning.
6	Competent user	Has generally effective command of the language despite some inaccuracies, inappropriacies and misunderstandings; can use and understand fairly complex language, particularly in familiar situations.
5	Modest user	Has partial command of the language, coping with overall meaning in most situations, though is likely to make many mistakes; should be able to handle basic communication in own field.

4	Limited user	Basic competence is limited to familiar situations; has frequent problems in understanding and expression. Is not able to use complex language.
3	Extremely limited user	Conveys and understands only general meaning in very familiar situations; frequent breakdowns in communication occur.
2	Intermittent user	No real communication is possible except for the most basic information using isolated words or short formulae in familiar situations and to meet immediate needs; has great difficulty in understanding spoken and written English.
1	Non-user	Essentially has no ability to use the language beyond possibly a few isolated words.
0	Test not attempted	No assessable information provided.

Table 3 IELTS equivalent testing system scores for comparison

CEFR	Component	IELTS-A	CPE and CAE	PTE-A	TOEFL-IBT
C1	Listening	8.0	200	76	26
C1	Reading	8.0	200	76	28
C1	Speaking	8.0	200	76	28
C1	Writing	8.0	200	76	28
C1	Total	8.0	200	76	110
C1	Listening	7.5	191	72	24
C1	Reading	7.5	191	72	26
C1	Speaking	7.5	191	72	27
C1	Writing	7.5	191	72	26
C1	Total	7.5	191	72	103
C1	Listening	7.0	185	67	22
C1	Reading	7.0	185	67	24
C1	Speaking	7.0	185	67	25
C1	Writing	7.0	185	67	24
C1	Total	7.0	185	67	95
B2	Listening	6.5	176	61	21
B2	Reading	6.5	176	61	22
B2	Speaking	6.5	176	61	23
B2	Writing	6.5	176	61	22
B2	Total	6.5	176	61	88
B2	Listening	6.0	169	56	19
B2	Reading	6.0	169	56	20
B2	Speaking	6.0	169	56	22
B2	Writing	6.0	169	56	19

B2	Total	6.0	169	56	80
B2	Listening	5.5	162	51	17
B2	Reading	5.5	162	51	18
B2	Speaking	5.5	162	51	20
B2	Writing	5.5	162	51	17
B2	Total	5.5	162	51	72

Abbreviations: **CEFR**: Common European Framework of Reference for Languages; **IELTS-A**: International English Language Testing System – Academic Version; **CPE**: Cambridge Certificate of Proficiency in English; **CAE**: Cambridge Certificate in Advanced English; **PTE-A**: Pearson Test of English – Academic Version; **TOEFL-IBT**: Test of English as Foreign Language – Internet-Based Test.

12 Summary and reflection

Reflect on your learning for this session and evaluate your skills development by completing Activity 5.

Activity 5 Reflecting on your learning and checking your skills development

Allow approximately 20 minutes

Create a **mind map** on the topic of 'Academic writing at postgraduate level' based on what you have learned in this session. Use your mind map to reflect on this topic and identify any areas that you are unsure of, or think you should develop further.

Refer to the academic and professional skills checklist which you completed in Session 1. Look at how you assessed your ability in the 'reflective thinking' and 'academic writing' domains. If you think that you are now at a higher level of understanding than your initial estimate, mark this down on the form.

Remember to review your progress at the end of each session, as you work through the course.

13 This session's quiz

The end-of-session quiz gives you the opportunity to check your understanding and progress. It consists of three questions and will help you to prepare for the longer Session 4 badge quiz.

[Session 2 quiz](#)

Open the quiz in a new tab or window (by holding ctrl [or cmd on a Mac] when you click the link).

14 Closing remarks

This brings Session 2 to a close. We have suggested some [further reading and other resources](#) that you may find useful. You might like to take a look at some of these after completing this course.

In the next session we will consider the importance of critical thinking (critical analysis and reflection), discuss how this differs from qualitative description, and review some practical approaches to critical thinking (analysis and evaluation) in writing for your assignments.

You can now go to [Session 3](#).

Session 3: Critical and analytical thinking

Introduction

Welcome to Session 3. In this session we explore the concept of critical thinking. We consider different approaches and fundamental aspects, examine why critical thinking and analysis are important in academic studies, and discover some tips to help you to evaluate an argument. Begin the session by listening to the following audio recording.

Audio content is not available in this format.



[Recap and overview of Sessions 3 and 4](#)

By the end of this session you should be able to:

- recognise the nature and importance of critical thinking for studying at Master's level
- understand how critical analysis differs from qualitative description.

1 What is critical thinking?

Let's begin with a bit of context. A major concern among employers and educators is that many graduates are incapable of applying the skills gained from their education to solve practical problems in their workplace. Within this debate is concern about graduates' mastery of 'critical thinking' and the transferability of higher-order thinking skills to the workplace.

A recent publication by the Confederation of British Industry titled '[Engineering our future-stepping up the urgency of Science, Technology, Engineering and Mathematics \(STEM\)](#)' identified 'critical thinking' as a key transferable STEM competency, among others. The emphasis relates to the notion that higher abilities such as critical thinking are behaviours and characteristics that employers value in the workplace. But this is not only common in the STEM sector. A *Wall Street Journal* publication in 2014 indicated that most employers looked for graduates with critical thinking capacity. The report mentions that critical thinking in job postings has doubled since 2009 and on one particular week found that more than 21,000 healthcare and 6,700 management postings

contained some reference to the 'skill'. There are a number of other publications that highlight critical thinking as an important aspect of postgraduate study.

If you cast your mind back to Session 1, you will recall that the Quality Assurance Agency for Higher Education (QAA), the independent body entrusted with monitoring and advising on standards and quality in UK higher education, emphasise critical thinking skills as a key facet of postgraduate education and training. This is very likely to be the case in many other countries, too.

So what is 'critical thinking'? It is likely that you have already come across this term in your personal and professional life, and probably in your previous studies. The term may have different meanings to you, depending on where you have read about it, or were required to apply it.

You may have arrived at an interpretation or a definition for this term. You will revisit your definition later on in this session, but first let's explore this concept a little further.

Activity 1 What does the term 'critical thinking' mean to you?

Allow approximately 5 minutes

Jot down a couple of things that come to mind when you consider the term 'critical thinking' – what does this mean to you?

List a couple of activities you have undertaken in the last month or so that you believe required critical thinking. You will return to these later.

Provide your answer...

1.1 What constitutes 'critical thinking'?

You probably won't be surprised to hear that there are a range of views on what constitutes critical thinking. We do not aim to explore these fully here, but as postgraduate students it is very important that you appreciate the problematic nature and use of some of these ideas. For example, a blog post on the 'The Conversation' by Dennis Hayes in 2014 generated an interesting debate around this topic, which is useful for us to consider.

Activity 2 Perspectives on critical thinking

Allow approximately 30 minutes

Read this [blog post by Dennis Hayes](#) and summarise the key ideas presented.

Now scroll down the web page and click on 'show all comments'. Note the differing views shared by other contributors to the debate and list some of the key ideas that come up.

Which of the contributors do you agree with and why?

Provide your answer...

Discussion

In this blog post, Dennis Hayes takes a particular perspective on the teaching of 'criticality' and draws on the work of Matthew Arnold in particular. He argues for the

propagation of knowledge and thought, through which he believes criticality may emerge, rather than *teaching* criticality as a 'skill'. This presupposes that one's deeper engagement in discourse and critical debate may help the person to be critical. The challenge, though, is how does one engage and debate critically? This is what many academics find lacking in students today, hence the drive to improve the situation.

As you can see from the blog responses there is significant divergence among educators. Broadly there are a number of scholars who argue that critical thinking is a skill and is transferable, while there are others who hold a contrasting view. Let's delve into some of these ideas.

2 Approaches to critical thinking

The varying notions of critical thinking cannot be fully explored in this short course. However, it is important to point to a few scholars who have influenced this area, and are relevant to the ideas presented here. The notion of critical thinking is rooted primarily in two academic traditions, philosophy and cognitive psychology. These disciplines have influenced this area significantly. They have developed different approaches to defining critical thinking that reflects their respective positions and concerns.

2.1 The philosophical approach

The philosophical approach draws heavily on writings from Socrates, Aristotle and many others placing a lot of emphasis on disposition and the character of the critical thinker as opposed to the behaviours and processes associated with critical thought. A very commonly cited analogy of this school of thought is drawn from Socrates in Plato's Republic, where he uses a 'Cave Analogy' to illustrate how our world-view shapes the assumptions we make, and the consequences of this inter-relationship on how we react or respond to other world-views. The reliance on disposition implies these are attitudes that cannot be easily taught. But rather being immersed in a culture where this happens often, gives way to the tendency for anyone to cultivate the habit associated with criticality through modelling the behaviours of others.

Glaser (1942) includes another layer, such as attitude and traits, when he defines critical thinking as '(1) an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experiences, (2) knowledge of the methods of logical inquiry and reasoning, and (3) some skill in applying those methods' (p. 5–6).

This view is shared by modern-day philosophers such as Paul (1993) for example, who posits that 'Critical thinking is based on two assumptions: first, that the quality of our thinking affects the quality of our lives, and second, that everyone can learn how to continually improve the quality of his or her thinking' (p. 23). This definition pushes the debate of critical thinking and analysis to something that can be learned or taught. But most importantly, Paul's theory focuses on the search for truth and distinguishes between sophistic thinkers, who use their critical thinking capacities to defend their own interest by unearthing fallacies in other people's arguments and reasoning but fail to apply these same principles to their own, and then 'true' critical thinkers, who are unbiased in their critique and searchers of truth, hence question their own disposition.

Paul's critique of earlier philosophical perspectives on critical thinking focused on identifying minimal conditions for an adequate theory of critical thinking. Paul's arguments were premised on the following:

- human thinking pervades every aspect of life and every dimension of the human mind
- though it is human nature to think, it is not natural for humans to think well (human nature is heavily influenced by prejudice, illusion, mythology, ignorance and self-deception)
- therefore, we need to be able to intervene in thinking, to analyse, assess it, and where necessary, improve it.

Paul posited that there are intellectual abilities that cannot be completely separated from intellectual traits in the mind of the critical thinker. This is evident from a number of scholarly work where critical thinkers are able to present two contrasting views accurately and providing thorough insights into both sides of the debate. For Paul, people who are better critical thinkers have the capacity to present alternative and opposing viewpoints in a coherent manner to provide understanding and new insights (intellectual empathy), distinguish what they know from what they do not know and are prepared to examine new evidence and arguments even if such examination leads to the discovery of flaws in their own beliefs (intellectual humility), think for themselves while adhering to rigorous standards for thought (intellectual autonomy), and are open to critique and can be moved by reasoning that is better than their own (confidence in reason).

2.2 The cognitive psychology approach

Unlike the philosophers, most psychologists who write about this area of work argue from a developmental and/or cognitive theory perspective. For example, Halpern (1996; 1998; 2007) argues that the main components of critical thinking are an individual's ability to consciously reflect on and evaluate their own thought process. Halpern explains that critical thinking requires analytical skills and an appreciation of rules and criteria for making reasonable judgements as well as a disposition to use those skills.

Sternberg (1996) defines critical thinking as 'the mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts' (p. 3). This particular perspective of critical thinking has often been questioned by philosophers who argue that this reductionist view doesn't recognise the complexity of critical thought. But the cognitive psychology perspective broadly suggests that through reflection and evaluation of evidence associated with a claim, it is possible to make logical and reasoned judgements about the merits of that claim.

A number of educational reformers have also contributed to the debate. While many draw on the works of Dewey and Bloom and their particular focus on communication and reflection in the process of critical thinking, critical pedagogues such as Paulo Freire, Henry Giroux, Peter McLaren and Ira Shor have also helped to shape the debate and have influenced the field over the past three to four decades.

3 Fundamental aspects of critical thinking

Despite the differences emanating from these schools of thought, there is agreement on some fundamental facets of critical thinking, most of which recognise the various behaviours and/or dispositions that a critical thinker must possess.

Abilities:

- analysing arguments, claims or evidence
- judging or evaluating based on evidence
- making inferences using inductive or deductive reasoning
- making decisions and/or solving problems through reasoning.

Dispositions:

- open-mindedness
- searcher of truth
- inquisition
- fair and balanced view of one's work and that of others.

Activity 3 Qualities and attributes associated with a 'critical thinker'

Allow approximately 10 minutes

Pause briefly here to reflect further on this.

What qualities or attributes come to mind when you consider someone to be a 'critical thinker'?

Note down your thoughts; you may find it helpful to list these.

Provide your answer...

Discussion

Here are a few thoughts. This is not meant to be the 'definitive' answer, but we want you to consider and reflect on some of these points. A *critical* thinker would typically avoid jumping to conclusions. They would seek to deepen their own understanding, analyse experience gained from different angles, look at the reasons for and consequences of their own actions, seek clarity and evidence to support their assumptions and beliefs, make use of theory, research and professional knowledge and the insights gained to make informed judgements, decisions and plans for the future.

Someone who is engaged in 'critical thinking' *could* be considered to be:

- self-aware (and emotionally aware)
- open to others' ideas (does not automatically assume that own knowledge and experience is typical of others')
- imaginative and showing curiosity
- enquiring (asks pertinent questions)
- empathetic (able to understand another's point of view)
- able to accept praise *and* constructive criticism

- able to think 'laterally'
- able to troubleshoot and solve problems (seeks new solutions)
- able to challenge their own assumptions, beliefs and opinions
- able to see things from different perspectives
- able to distinguish between facts and opinions
- able to evaluate statements and arguments.

How many of these matched your own thoughts? Were there other qualities that you noted?

Another aspect of critical thinking we haven't mentioned yet is, of course, one's knowledge of the subject matter. A well-informed researcher or practitioner is always in a good position to offer better insights on the subject matter from an informed position. Bailin et al. (1999), for example, posit that domain-specific knowledge is indispensable in academic critique because the kinds of analysis, evaluation and the use of evidence often vary from discipline to discipline. However, it is important to emphasise that critical thinking and analysis is not simply related to subject knowledge. At postgraduate level the expectations are much higher. You will be required to engage in greater depth with a range of literature, as well as methodologies and approaches used in a variety of research. Now, whilst expectation may vary across disciplines, the fundamentals remain the same.

Activity 4 Reflecting on your understanding and perceptions of critical thinking

Allow approximately 20 minutes

Return to your notes from Activity 1 (in this session) and consider the following questions:

- To what extent do you think the activities you listed involved critical thinking and/or analysis?
- Has your perception of what constitutes critical thinking shifted in any way?
- If it has, can you explain why?
- If not, which 'school of thought' does your understanding align with, and why?

Provide your answer...

4 The importance of critical thinking and analysis in academic studies

The aim of critical thinking is to try to maintain an objective position. When you think critically, you weigh up all sides of an argument and evaluate its strengths and weaknesses. So, critical thinking entails: actively seeking all sides of an argument, testing the soundness of the claims made, as well as testing the soundness of the evidence used to support the claims.

Box 1 What 'being critical' means in the context of critical thinking

Critical thinking is **not**:

- restating a claim that has been made
- describing an event
- challenging peoples' worth as you engage with their work
- criticising someone or what they do (which is made from a personal, judgemental position).

Critical thinking and analysis are vital aspects of your academic life – when reading, when writing and working with other students.

While critical analysis requires you to examine ideas, evaluate them against what you already know and make decisions about their merit, critical reflection requires you to synthesise different perspectives (whether from other people or literature) to help explain, justify or challenge what you have encountered in your own or other people's practice. It may be that theory or literature gives us an alternative perspective that we should consider; it may provide evidence to support our views or practices, or it may explicitly challenge them.

You will encounter a number of activities and assignments in your postgraduate studies that frequently demand interpretation and synthesis skills. We introduced such an activity in Session 1 (Activity 3). Part of this requires use of 'higher-order thinking skills', which are the skills used to analyse and manipulate information (rather than just memorise it). In the 1950s, Benjamin Bloom identified a set of important study and thinking skills for university students, which he called the 'thinking triangle' (Bloom, 1956) (Figure 1). Bloom's taxonomy can provide a useful way of conceptualising higher-order thinking and learning. The six intellectual domains, their descriptions and associated keywords are outlined in Table 1.

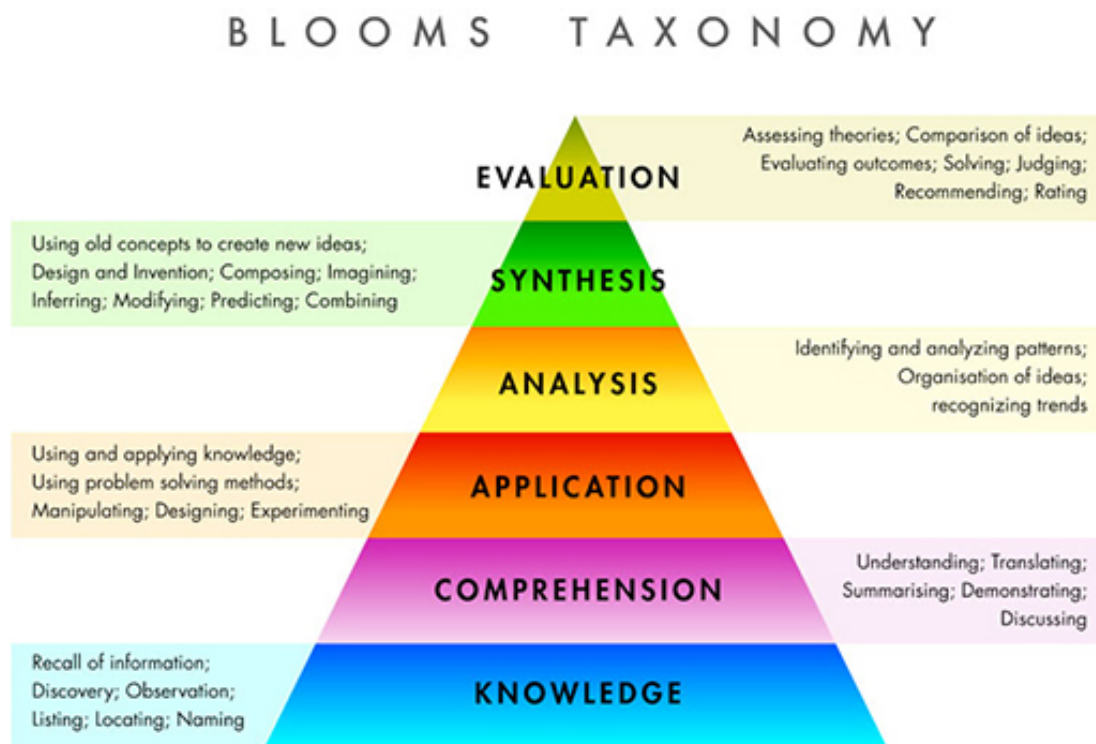


Figure 1 Levels of intellectual skill: the thinking triangle or 'Bloom's Taxonomy' (adapted from Bloom, 1956)

Table 1 Higher-order intellectual domains, descriptions and associated keywords

Domain	Description	Keywords
Knowledge	Exhibit memory of previously learned material by recalling information, fundamental facts and terms, as well as discovery, through observing and locating.	Who? What? Find Define Recall
Comprehension	Demonstrate understanding of facts and ideas by organising, comparing, translating, interpreting, giving descriptors and stating main ideas.	Compare Contrast Explain Discuss
Application	Solve problems in new situations by applying acquired knowledge, facts, techniques and rules in a different or new way.	Plan Build Experiment Design Solve Interview
Analysis	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalisations.	Dissect Examine

		Infer
		Compare
		Contrast
Synthesis	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	Compose
		Construct
		Create
		Design
		Develop
		Theorise
		Elaborate
		Formulate
Evaluation	This is also denoted as 'critical evaluation', often used to emphasise the depth of evaluation required. You will be required to present and defend opinions by making judgements about information, the validity of ideas or quality of work based on a set of criteria.	Compare
		Justify
		Prove
		Disprove
		Deduct

5 How to evaluate an argument

Understanding what is meant by the term 'argument' is not always clear to students. In academic work an argument is not simply disagreeing with someone, entering into a dispute or quarrel. Argumentation is defined in the Oxford Dictionary as an 'action or process of reasoning systematically in support of an idea, action, or theory...'.

When you evaluate academic material, such as a journal article, you are aiming to form a judgement on the validity of the argument presented. So it is important that you understand the components of the argument(s) being presented.

In this context, an argument can be said to have four basic components:

- an arguable premise or claim
- use of facts and evidence
- a warrant
- any qualifications to the argument that might be necessary.

The claim: this is the point that is being made; what is being argued for. When reading the literature, ask yourself if the claims being made are relevant to your current needs (i.e. can you use them in your course assignment? Are they an important addition to the knowledge of the subject?).

The evidence: this is the grounds upon which the claim is made. An academic argument explores an arguable premise or claim using facts, evidence and different points of view. These would typically derive from outside sources. Sometimes it might be data from a study, other times it might be a quote or reference to someone else's published work. You will hear it referred to as 'supporting evidence'. The evidence needs to fully support the claim being made or, if it doesn't, its weaknesses need to be acknowledged and dealt with in some way (for example, by 'qualifications').

The warrant: this is the general principle that forms the bridge between the claim and the evidence it is based on. It is logical reasoning that connects the evidence to the claim. It moves from step to step in a clear, developmental manner.

Qualifications: these are concessions that may have to be made within an argument that limit what someone might be able to claim (see 'evidence' above).

5.1 Examples

Now let's consider the following argument:

Statistics from a number of higher education institutions suggest that students who attend tutorials often pass their examinations. In 2014, 58% of students surveyed indicated that they believe their attendance at tutorials was the main reason for their success in their examination. I am a very motivated student who is very keen to pass my examinations so I will attend all my tutorials and feel confident it will guarantee my success.

The claim here is that attending tutorials will somehow guarantee success in examination. Remember we are not saying this is true or false. What we are doing is evaluating the *claim* being made. Firstly, according to the author, there is some evidence (58% of

students from a survey) to suggest that students who attend tutorials often pass their examinations. However, the survey data does not indicate the sample size or population, and the source of the data has not been referenced, so there is no opportunity to refer back to the original source. This is important because the sample size may not be compelling. Also the population chosen for the study may reveal certain characteristics that could influence our judgement about the claim being made. The survey response, as reported in this extract, also indicates that attendance at tutorials was the main reason (for student's success in exams), which implies that there were other factors, too. This makes the argument imbalanced because it hasn't adequately explored other reasons for the association between success and attending tutorials. The writer qualifies their argument by including motivation as another factor and, by doing so (indirectly), acknowledges the limitations of over-reliance on attendance at tutorials as a reason for success.

In summary, the claim is attempting to establish a 'cause and effect' without providing compelling evidence. Perhaps, attending tutorials could be a contributory factor if we considered this within a spectrum of factors that could help students to succeed at examinations. The example provided here therefore represents a 'flawed' argument.

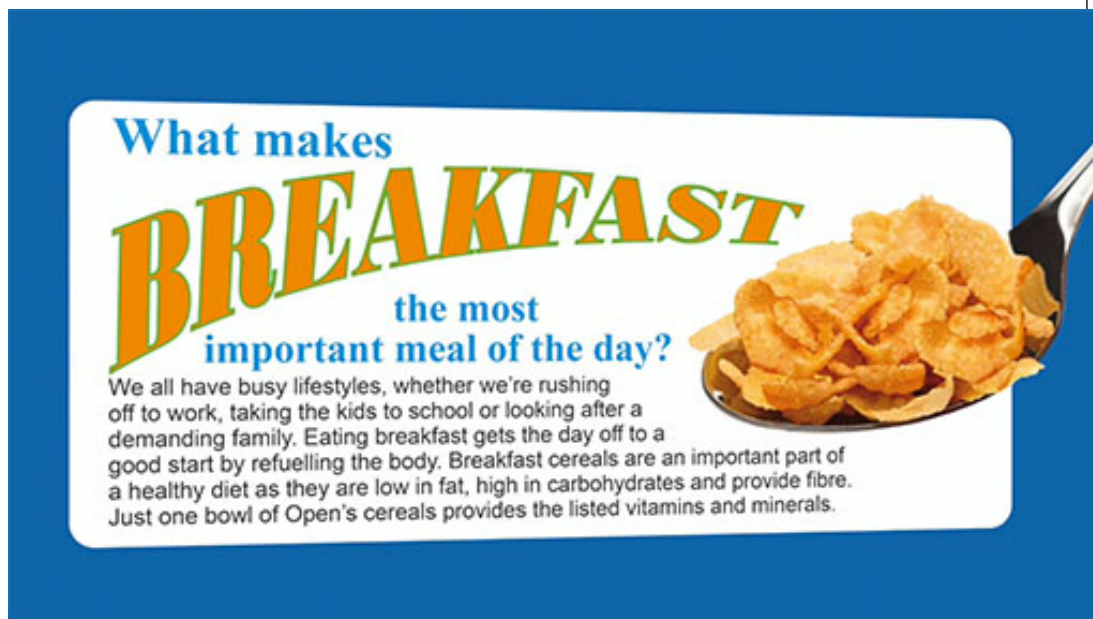
In order to think about this argument *critically*, you would ask the following questions:

- Who was surveyed and what was the sample size?
- What are the characteristics of students who attend tutorials? For example, do they have more time to study and is this the factor that gives them the edge?
- What is it about tutorials that may make a difference?
- What else contributes to success?

Let's take a look at another example. This short presentation shows how critical reading and analysis are concepts that can be applied in everyday life.

Video content is not available in this format.

[A breakfast cereal packet](#)



6 Evaluating an argument – coherence and supporting evidence

When you evaluate written material, you are aiming to form a judgement on the validity of the argument presented. You can do this by looking at (i) the coherence of the argument, and (ii) the supporting evidence. Here are some prompts that should help you to evaluate arguments.

The activity below should help to put what you have learned so far into perspective.

Activity 5 Evaluating an argument

Allow approximately 20 minutes

Select a piece of written material (this could be a newspaper or magazine article), and evaluate any arguments that have been presented, in terms of the following:

- **Coherence of the argument:** identify when an argument is valid (i.e. that claims made adequately support the conclusions being drawn, and are justifiable).
- **Supporting evidence:** evaluate the evidence being presented, and to establish its worth (in its own right, and when compared with other evidence).

Discussion

Whether you have chosen a newspaper article or peer reviewed journal article, we expect you to subject them to the same level of scrutiny or critique. The following table provides some pointers:

Coherence	Supporting evidence
-----------	---------------------

- Check the line of reasoning – is it coherent and logical? Are there any flaws in its progression?
- Look at the conclusions drawn – are they supported adequately by the claims made throughout the argument? Are they 'valid' and do they make sense?
- Have the authors justified their claims by supporting them with acceptable sources of evidence?
- Are any assumptions made and, if so, are they acceptable?
- Have all alternative claims been considered?
- Is there any bias in the claims and supporting arguments?
- Is there any indication that a claim made is merely the author's opinion rather than based on evidence?
- Does the claim make sense when compared to the evidence used?
- Does the evidence support all of the claims made? Is it comprehensive?
- Is the evidence appropriate for the topic?
- Is the evidence recent and is that important for your purposes?
- How does this evidence compare with that provided by other people – is it conflicting or does it complement other evidence? Does it co-exist, adding something extra to the topic?
- Are there any methodological issues about the collection of the evidence that might impinge upon its usefulness?

We will explore this process in more depth in Session 4, using a journal article.

7 Summary and reflection

You can use this visual summary to review topics that were discussed in this session. Visual summaries offer a valuable means of revisiting and reflecting on a topic, and can be powerful study tools. Take some time to go through this, before moving on.

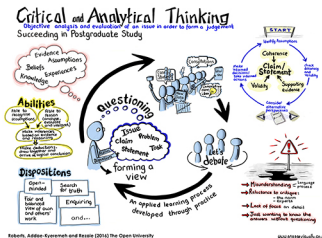


Figure 2A visual summary of critical and analytical thinking

We have provided you with a [larger version of this image in PDF format](#).

The activity below encourages you to reflect further on a topic of your choice.

Activity 6 Reflecting on Session 3

Allow approximately 20 minutes

Based on what you have learned in Session 3, either create a **mind map** or write a **learning journal entry** on ONE of the following topics:

- why critical thinking is important at postgraduate level
- qualities and attributes of a critical thinker
- how to evaluate an argument.

Use your mind map or learning journal to reflect on your chosen topic and identify any areas that you are unsure of, or think you should explore further.

Now go back to your academic and professional skills checklist, and look at how you assessed your ability in the 'critical and analytical thinking' domains (developing reasoning and argument). If you think that you are now at a higher level of understanding than your initial estimate, then mark this down on the form.

Remember to review your progress at the end of each session, as you work your way through the course.

8 This session's quiz

The end-of-session quiz gives you the opportunity to check your understanding and progress. It consists of three questions and will help you to prepare for the longer Session 4 badge quiz.

[Session 3 quiz](#)

Open the quiz in a new tab or window (by holding ctrl [or cmd on a Mac] when you click the link).

9 Closing remarks

This brings Session 3 to a close. We have suggested some [further reading and other resources](#) that you may find useful. You might like to take a look at some of these after completing this course.

In the next session, we explore how you can apply criticality to your reading and writing by considering some practical approaches to critical analysis.

You can now go to [Session 4](#).

Session 4: Critical reading and writing

Introduction

Welcome to Session 4. In this session we discuss some practical ways in which you can select relevant material and be critical in your reading and in your writing. We also provide some tips that should help you when writing a critical essay.

By the end of this session you should be able to:

- understand some practical approaches to critical analysis, applying critical thinking to reading and writing for assignments.

1 Being critical in your reading

As your aim when critically analysing material is to *respond objectively* to what you are reading or thinking through, you need to keep an open mind and be prepared to question the author's claims. This means that you should try to be aware of any preconceptions you have that might be skewing the way you think about an argument. As you read, allow yourself opportunities to check your understanding and revisit sections if you are unsure of their meaning. How you do this and the questions you ask will vary depending on what – and why – you are reading (for example, you might be responding to an assignment question). As a result, you must always be prepared to adapt your approach according to the demands of the material.

An approach for thinking and reading critically

Although there is no one 'right' way of thinking and reading critically, you will find it useful to get some basic tasks done before moving on to an evaluation of any material. Try the following three steps:

1. identify the thrust of the information
2. analyse the material
3. compare and apply the information.

Identify the thrust of the information

First, identify the general thrust of the argument within the information you are reading. At this stage you are simply trying to define and be aware of the subject matter. Try to identify the main points of the argument, the claims being made, evidence used, and conclusions reached.

Analyse the material

As you read, think about whether or not the material is relevant to your needs. Here are some questions that might help in your analysis:

- Does the information make sense in relation to other theories and research? Where in the broader picture does this particular argument sit?
- How old is the material?
- Is the material clear, or do you need to find additional information to aid your understanding?
- Can you identify any implications that might require you to look for other material? (Perhaps complementary explanations of a phenomenon if the original material is not comprehensive enough.)
- Does the argument present a balanced view, or is the author disregarding some topics in order to put forward a particular argument?

Compare and apply information

Assignment questions will often ask you to apply theories, principles or formulae to situations. The process of trying to apply what you are learning can help you to build your understanding of the subject. Try looking for:

- The implications of one piece of information for another.
- Weaknesses that might be revealed when you apply the idea to a real-life situation.
- A lack of coverage. Does the theory or formula only go so far, and do you need to rely upon another theory or principle to complete your understanding?

Activity 1 Applying the concepts of critical thinking

Allow approximately 45 minutes

Read the article [Adolescent leadership: the female voice](#) and consider it against the following questions. Provide your responses in the text box below.

- What ideas and information are presented and how were they obtained?
- Are there unsupported assertions?
- Are reasons or evidence provided?
- Are the reasons and evidence given relevant?
- Is the method used to find the evidence sound?
- Is the evidence correct or valid?
- What assumptions have been made?

- Are you convinced about the conclusion(s) reached?

Provide your answer...

Now watch the following presentation, which uses the same article. The presentation shows how the concepts of critical reading, analysis and argument can be applied to an academic journal article. How does it compare with your responses?

Video content is not available in this format.

[Analysis of 'Adolescent Leadership: The Female Voice'](#)



Discussion

It should have become evident that there are a series of questions it would be sensible to ask when engaging with an activity (such as reading an article or listening to a podcast) from a critical and analytical perspective. Here is a checklist to use when making judgements about material that you read:

- Who is speaking or writing?
- What is their point of view or perspective?
- What ideas and information are presented and how were they obtained?
- Are there unsupported assertions?
- Are reasons or evidence provided?
- Are the reasons and evidence given relevant?
- Is the method used to find the evidence sound?
- Is the evidence correct or valid?
- What assumptions have been made?
- What is fact and what is opinion?
- What are the implicit and explicit values?
- Are there unreasonable generalisations?
- What has been omitted?

- How was the conclusion reached?
- Is the conclusion reasonable?
- What other perspectives or points of view could there be?

You might like to keep this list with you as you read and begin to analyse texts. The list is not exhaustive, however, and you can add extra questions as you progress in your understanding.

2 A process for reading and selecting relevant material

During your studies, you will often encounter the challenge of having to do a lot of reading in a very limited time, so you will have to be selective and economical but, of course, critical, too. Whenever you locate reading materials, it is important to pause and go back to your assignment. Focus on the requirements and key points, and consider how the article may contribute to your preparation of a response. A simple template such as the one shown in Table 1 could be your starting point. Once you have a template like this, you can then move on to the following stages (Figure 1).

Table 1 Selecting relevant material for an assignment – example template

Author	Year	Title	Overview of the contents	Relation to assignment question	How you intend to draw on the material
A. Another	2016	An exploratory study of student perceptions of the importance of study skills in higher education			

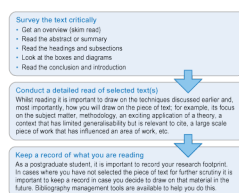


Figure 1 Reading relevant material – stages in the process.

It is very important that you take notes on what you read, to help map concepts and ideas, and how these relate to your own thoughts. Cameron (2009) suggests that note-taking enhances your concentration and understanding, helps you to retain what you have read, and is useful when revising content. Representing your understanding and/or ideas graphically is also a useful way of assimilating information, as we have seen from previous sessions. There are a number of free applications and software that can help you do this, and you can search for these online.

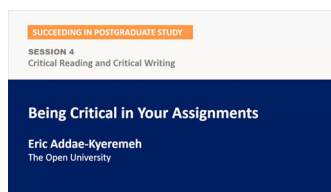
Critical reading will enable you to analyse both written and oral materials for their relevance and appropriacy. It allows you to make judgements about your sources of information and evidence. This is an important postgraduate skill that you need to demonstrate – it requires in-depth engagement with material, helps you to enhance your understanding of the subject matter, and helps you to make informed judgements. Engaging with this process will enable you to work more effectively, as you will be more thoughtful about the decisions you make, and more careful in approaching your work. Critical reading is also the foundation for critical writing, which we will turn to now.

3 Being critical in your writing – some practical suggestions

Not only do you have to read with a critical eye but you must also be able to express your ideas in a critical way. This means that your writing must demonstrate your understanding of the significance of an argument or perspective, the relevance of evidence and the strength of conclusions made. Your writing will need to show evidence of your ability to defend an argument against charges such as bias, lack of supporting evidence or incompleteness. Developing critical writing skills will allow you to develop more reasoned arguments for your assignments, projects and examination questions. The short presentation below gives some practical tips on how to address criticality in writing for assignments.

Video content is not available in this format.

Session 4, slidecast 1: Being critical in your assignments



3.1 Approaching the question

As with your reading, you should try to engage actively with the assignment question and its required content. Determine whether the assignment expects you to draw upon course materials, external sources or a combination of both for evidence to support your answers. Approach the question by: checking any guidance notes carefully, splitting the question into its components, and looking closely at the 'process words' – recall that we looked at some of these at the end of Session 2. You will need to set aside some time to draft a plan (or outline) before you start writing, and also need time to review what you have written afterwards, to make sure that you keep to the question set, by referring back to it as you write.

3.2 Read the question critically

When reading the assignment question, you can use your critical thinking skills to make sure that you understand the question fully. For instance, if the question asks you to 'compare and contrast' two different approaches, you will know that you have to devote some of your word count to one approach and some to the other. Likewise, if the question asks you to 'assess the value of X to our understanding of Y', you will have two points of focus in your answer. Look to the process words (keywords), which in assignment

questions prompt certain aspects of critical thinking. Generally speaking these would be along the following lines:

- **Evaluate, assess, defend, support:** you will need to prepare a reasoned judgement based on your analysis.
- **Apply, demonstrate, illustrate, interpret, solve:** you will need to apply the subject (to a given situation).
- **Develop, formulate, arrange:** you are expected to combine the material with other materials you read in the course.
- **Compare, contrast, discriminate, distinguish, examine:** you will need to analyse the argument.
- **Define, list, name, order:** you will need to identify the content.

However, do bear in mind that the keywords introduced here may have alternative meanings that are specific to your discipline area. Always consult your assignment guide carefully to make sure you know what is expected of you. You will also have tutor support during your postgraduate studies, so if you are in any doubt, do ask your tutor.

4 The difference between descriptive and critical writing

It is important that you understand the difference between descriptive writing and adopting a critical stance, and are able to show clear evidence of your understanding in your writing. Table 2 provides some examples of this.

Table 2 Difference between descriptive writing and critical/analytical writing

Descriptive writing	Critical/analytical writing
States what happened	Identifies the significance
States what something is like	Evaluates (judges the value of) strengths and weaknesses
Gives the story so far	Weights one piece of information against another
States the order in which things happened	Makes reasoned judgements
Says how to do something	Argues a case according to evidence
Explains what a theory says	Shows why something is relevant or suitable
Explains how something works	Indicates why something will work (best)
Notes the method used	Indicates whether something is appropriate or suitable
Says when something occurred	Identifies why the timing is important
States the different components	Weights up the importance of component parts
States options	Gives reason for the selection of each option
Lists details	Evaluates the relative significance of details
Lists in any order	Structures information in order (e.g. of importance)
States links between items	Shows the relevance of links between pieces of information
Gives information	Draws conclusions

(Adapted from Cottrell, 1999)

4.1 Using structuring devices in your writing

In addition to structuring your writing (in the style of an essay or a report, for example), you also must convey the overall logic and progression of your argument – this demonstrates your critical thinking. As you gain experience, you will develop your own particular writing style. Here are some suggested ways that can help to structure your written assignments, and help the reader to follow your arguments and overall flow of logic, as they progress within your writing:

- use context and examples
- use themes

- link and signpost.

4.2 Use context and examples

Your writing needs to involve a certain amount of contextualisation, which means that you define the background of the subject for your reader. You are likely to do this, in a general way, within your introduction, but you may also need to set the context at various points throughout your assignment. *How* you set the context will depend on your assignment. It may involve giving descriptions of theories and concepts, a historical account of attitudes, or a description of a problem. Another way is to move between descriptions of particular phenomena to a more general and overarching perspective of your topic. This will help your reader recognise how your point is positioned within the subject as a whole. You might also change the focus as your argument unfolds. This can be a useful way of introducing perspective and contextualising your argument.

The quote in the box below is from a book chapter on a Social Sciences course at the OU. Here, the authors use a real-life example to explore the connection between people's private health and more public aspects of life. This sharp focus on an individual experience helps the authors to contextualise their argument that our biological make-up interacts with social circumstance. Moving from a broad argument to a particular example helps them to support their overarching argument.

Box 1 From the general to the particular

The following is an extract from Smith and Goldblatt's chapter 'Whose health is it anyway?' in Hinchliffe and Woodward's book, *The Natural and the Social: Uncertainty, Risk, Change*.

In Chapter 1 of this book Wendy Hollway discussed the way in which our natural biological make-up interacts with the kind of social circumstances in which we live in different areas of human experience and at different times. As an asthma sufferer, I am only too aware of how my biology interacts with my social and physical environment despite taking care, I sometimes get a full-blown attack and this affects my ability to take part in my normal everyday activities. Controlling my asthma requires constant medication, so my 'illness' has a cost on the health service. Therefore, dealing with my asthma is of interest not just to me, but also to the government and indeed to everyone who pays for and utilizes the health service. So, looking at the causes of health and illness and possible interventions offers another way in which we can explore how the natural interacts with the social conditions in which we live.

(Source: Smith and Goldblatt, 2004, p. 42)

4.3 Use themes

Your assignment question (or the notes that accompany it) may reference certain themes explicitly or implicitly. Draw on themes to add structure to your writing, as they can prove a

useful device that might help you link different aspects of your course learning. Use them to demonstrate differences and similarities between schools of thought or theoretical approaches. You can also use a theme to help you to frame an argument or conclusion.

4.4 Link and signpost

Use linking words and signposting to connect your ideas. These make clear to your reader both how your argument progresses logically from one point to the next and how each new point is relevant. Here are some examples:

- **Draw attention to certain points:** 'equally importantly', 'furthermore'.
- **Indicate cause and effect progression:** 'this results in', 'consequently', 'for this reason'.
- **Indicate progression within an argument:** 'therefore', 'however', 'nevertheless'.

5 Tips for writing a critical essay

The following table provides a helpful summary of key questions you should ask yourself as you prepare an essay that demonstrates the level of criticality expected at postgraduate level. The suggestions in the 'do' and 'don't' columns are equally important so pay attention to suggestions.

Table 3 Tips for writing a critical essay

	Do	Don't
What?	Answer the question. Keep referring back to the title – both mentally and in your work.	Forget the title. It is amazing how many people do!
What?	Contextualise – give background to help your reader but include ONLY what is really necessary.	Just narrate or 'splurge', telling the whole story starting from the big bang and including everything you ever heard about the topic!
What?	Outline, trace or summarise briefly instead of including superfluous data or detail.	Describe in too much detail or include all your data – unless specifically asked to. Reserve your main effort for the most important parts – the analysis and discussion.
What?	Define your terms, the problem etc.	Tip-toe around the issue, not being specific.
How?	Show processes in a logical order.	Muddle everything together.
How?	Explain subtle points and finer details.	State the obvious, repeat or over-explain.
How?	Be precise, clear, direct and to the point. Be concise: reduce what you say to its essence in both your thinking and your communicating.	Be vague or include detail that doesn't help answer the question. Oversimplify or see things 'in black and white'.
How?	Use definite, specific, concrete language. Use terms consistently – stick to one meaning for each, or explain if you need a different usage.	Use loaded or deliberately emotive language. Use colloquial expressions, phrases or clichés (e.g. the word 'get' can often be replaced by a more specific term appropriate to the context – e.g. 'purchase', 'arrive', 'achieve').
How? / Why?	Use 'signposting' to help the reader follow your thread: provide the reader with strong 'umbrella' sentences at beginnings of paragraphs, 'signposts' throughout, and brief 'so what' summary sentences at intermediate points to help your reader understand your comparisons and analyses.	Assume the reader knows why you are including the information you are. Instead tell them explicitly why it's relevant and what it shows, so that they can follow your line of thought without having to guess at connections you make in your head.
How? / Why?	Emphasise an important point by giving it a prime place in the sentence or paragraph, or by reinforcing it with the language you use, e.g. 'Something which needs particularly careful consideration is...' or 'It may appear that x is the case,	Repeat the same information in the same or slightly different words in the hope that the reader will not notice that you are padding it out! On the contrary, the reader will definitely notice and will be bored!

	but evidence shows that what actually occurs is y'.	
	Give specific examples to illustrate the points you make about how something happens in context.	
Why?	Support and illustrate your claims with appropriate evidence and examples. Exploit the information you have, and show your reading with up to date and appropriate references.	Copy and paste from texts books and articles. Refer to books, because they sound impressive, even though you have not read them.
How?	Develop your argument to reflect your actual findings and reading.	Decide what you think first and then twist the facts or refer to texts selectively to make them fit your claims.
Why?	Analyse and discuss issues, looking at pros/cons, strengths/weaknesses, patterns/trends, connections and complexities, and aim to propose a convincing theory with some input of your own derived from your research.	Make unproven assumptions and generalisations, especially from merely anecdotal evidence or personal experience alone.
Why?	Persuade and convince, showing why you think what you're saying is interesting, relevant and valid.	Rely on persuasive language alone to make your point.
Why? / What if?	Start from a reliable premise (e.g. smoking has been shown to cause heart disease and lung cancer) and arrive at a reliable conclusion (therefore it is reasonable to say that smoking is a health hazard).	Construct a faulty argument on the basis of a weak premise, e.g. there is a strong correlation between people's shoe size and the size of their vocabulary. Therefore having a large vocabulary causes your feet to grow.
Why? / What if?	Make intelligent suggestions, predictions and hypotheses using appropriate language to show that what is said is only one possible interpretation or belief. Useful words are: 'highly likely', 'probably', 'not very likely', 'highly unlikely', 'often', 'usually', 'seldom', 'I doubt', 'I suspect', 'most', 'many', 'some', 'it could be said', 'it seems', 'evidence suggests'... Choose 'it could be' rather than saying 'it is'.	Make absolute statements unless stating a very simple non-debatable fact (like 'the Earth is a planet' – and even then it is better to say 'The Earth is considered a planet because...' to allow for the possibility that someone may one day prove otherwise or re-categorise it...).
Why? / What if?	Account for weaknesses in your own argument, rather than leaving them for your reader to criticise – this will undermine your credibility, whereas pointing up your own faults will show thoroughness, and filling in the gaps will help convince.	Ignore or overlook faulty logic in your own or others' work.
So what?	Comment / pass judgment, giving a reasoned opinion based on evidence analysis (Cottrell, 1999).	Write descriptive and repetitious comments rather than giving an opinion.
So what?	Consider and evaluate others' ideas, whether they oppose yours or not.	Ignore opposing arguments, as this will weaken your own.
So what?	Reject and refute others' theories if you find them unconvincing – AS LONG AS you can justify your response in scholarly	Agree with or accept unquestioningly information, arguments, theories or the beliefs of others just because they seem

	terms, i.e. your objections are formed from your research.	like authorities – i.e. have published their written work.
What next?	Make recommendations according to the results of your study and your findings.	Moralise or preach, rant or tell people what you think they should do.

(Adapted from LearnHigher, 2012)

6 Summary and reflection

Reflect on your learning for this session and evaluate your skills development by completing the following activity.

Activity 2 Reflecting on Session 4

Allow approximately 30 minutes

- Create a **mind map** on ONE of the following topics, based on what you have learned in Session 4: 'How to write a critical essay' OR 'Differences between descriptive and critical writing'.
- Use your mind map to reflect on the topic and identify any areas that you are unsure of, or think you should develop further.
- Use the academic and professional skills checklist from Session 1 to monitor and review your progress in the following areas: (1) comparing and evaluating arguments and perspectives, (2) evaluating information to support a particular view.

Remember to review your progress at the end of each session, as you work through the course.

7 This session's quiz

Now it's time to complete the Session 4 badge quiz. It is similar to previous quizzes, but this time, instead of answering 3 questions, there will be 15.

[Session 4 compulsory badge quiz](#)

Remember, this quiz counts towards your badge. If you're not successful the first time, you can attempt the quiz again in 24 hours.

Open the quiz in a new tab or window (by holding ctrl [or cmd on a Mac] when you click the link).

8 Closing remarks

This brings Session 4 to a close. We have suggested some [further reading and other resources](#) that you may find useful. You might like to take a look at some of these after completing this course.

In the next session, we look at another key component of academic study – information literacy in the digital age.

You are now half way through the course. The Open University would really appreciate your feedback and suggestions for future improvement in our optional [end-of-course survey](#), which you will also have an opportunity to complete at the end of Week 8. Participation will be completely confidential and we will not pass on your details to others.

You can now go to [Session 5](#).

Session 5: Searching for, evaluating and keeping up- to-date with information

Introduction

Welcome to Session 5. This session will help you to review, refresh and update your current digital and information literacy skills. We start by defining 'information literacy' (IL), consider how this has evolved as 'digital and information literacy' (DIL), and discuss these in the context of your postgraduate studies. We then examine some of the key IL and DIL skills that students entering postgraduate study should already have and/or be aware of. Begin by listening to the following audio recording.

Audio content is not available in this format.



[Recap and overview of Sessions 5 and 6](#)

By the end of this session you should be able to:

- search for information, evaluate sources and keep up-to-date with information
- cite and reference sources appropriately.

1 Digital and information literacy

Let's begin by exploring what is meant by 'information literacy' and 'digital and information literacy' and why these are integral to your postgraduate study skills.

Fundamentally, information literacy (IL) is the ability to: recognise when information is needed; know how to locate and evaluate the appropriateness of information found; and know how to use this in an effective and responsible manner. This brief description can be encapsulated in a more formal definition of IL, widely used by information and library professionals, which states:

Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner.

(CILIP, 2004)

So how does this differ from 'digital and information literacy' (DIL)? The Open University Library defines DIL as follows:

Digital literacy includes the ability to find and use information (otherwise known as information literacy) but goes beyond this to encompass communication, collaboration and teamwork, social awareness in the digital environment, understanding of e-safety and creation of new information. Both digital and information literacy are underpinned by critical thinking and evaluation.

(OU Library, 2014)

You may feel that you already have a good awareness of both digital and general information literacy skills from your undergraduate studies or relevant work experience. However, being aware of the need to continuously review your academic and DIL skills to ascertain their relevance, effectiveness and efficiency of practice, and to be open to developing these further and to keep up with changes in the digital environment form an important part of your postgraduate skills and are essential for continuing your professional development.

Activity 1 Some important terms

Allow approximately 5 minutes

What do the following terms mean to you? Have you engaged previously with these tools and resources?

- RSS feeds
- ZETOC alerts
- grey literature
- deep (or invisible) web.

Discussion

RSS (Rich Site Summary) feeds and ZETOC alerts are subscription systems that can be set up to check specified resources of interest (journals, websites, forums, blogs, etc.) and to 'feed' headline activities and information directly to your email account rather than you having to constantly check the sites yourself. We will look at setting up RSS feeds later on in this session.

'Grey literature' is a term used to describe any information that has either not been formally published or is not available commercially, while the 'deep (or invisible) web' relates to information on the web that is not generally found by standard search engines such as Google, Bing or Yahoo (hence it is 'invisible'). This type of information can however be accessed via specialist search engines and bespoke databases (through subscription entry for example), if you know how and where to look.

Activity 1 introduced some important terms, and began to explore their meaning and potential relevance. The next activity will allow you to get your bearings on sources of information that you come across, and may wish to use in your studies.

Activity 2 Sources of information

Allow approximately 5 minutes

Which of the following sources of information have you previously used in your studies? How would you reference them in your work?

- Twitter feeds
- Facebook or other social networking sites
- forum, blog and micro-blog postings
- podcasts
- YouTube listings
- governmental organisations, non-governmental organisations (NGOs) and/or private industry working documents
- online newspaper articles
- theses
- ebooks and ejournals.

Discussion

Depending on your studies and the type of research that you are doing, it may be appropriate to make use of any one or all of the above sources of information. Being able to reference each of these appropriately so that others can access the information, as well as assess their reliability, is an essential requirement at postgraduate level. We take a closer look at citing and referencing sources later on in this session.

2 Digital and information literacy skills framework

Based on your previous undergraduate studies, other research or work experience, you should already have attained certain DIL skills. This means that you are likely to have a working knowledge of different learning resources (e.g. management tools, databases, journals, study guides, etc.) that will complement your studies, and be able to:

- independently select the most appropriate resources for a specific task
- keep up-to-date with any changes to the resources selected for that task
- independently carry out a wide-ranging, systematic literature search (and be confident that the information found represents a thorough sample of the literature)
- filter and critically evaluate information obtained from any source (including your own and other students' writing) to ascertain its quality and relevance to the purpose at hand (e.g. determine any bias in approach, the validity of its outcomes, etc.)
- accurately and appropriately refer to and reference the thoughts, ideas and work of others (including published authors, other students, anonymous websites, etc.) in your work, and ensure these can be differentiated from your own thoughts, ideas and conclusions.

As a postgraduate student you will be expected to have a reasonable idea of how to find, retrieve and work with different sources of information, but the key thing here is to ensure that you know how to do this as effectively as possible. The Open University's [digital and information literacy framework](#) can help you to recognise how your DIL skills are progressing during your studies and how these relate to your academic, personal and professional (employment) needs.

NOTE: You can download the full document if you wish to explore this more fully, but are not required to do so. Activity 3 will take you through the relevant sections of the framework that specifically relate to Master's-level study.

The framework is based around five core skills (or 'competencies') that cover:

- understanding and engaging in digital practices
- finding information
- critically evaluating information, online interactions and online tools
- managing and communicating information
- collaborating and sharing digital content.

There are also five 'levels' of study, ranging from Access level (i.e. pre-undergraduate level skills), through the three stages of undergraduate study prior to Master's/professional levels of competency. As an example, focusing on the core competency of 'collaborating and sharing digital content', an expected skill at postgraduate level (and one that you may already have developed as part of your undergraduate studies), is to 'produce a shared digital asset or output in collaboration with others as part of an assessed activity'.

Activity 3 Digital and information literacy – comparing undergraduate with postgraduate

Allow approximately 10 minutes

Read the [document comparing undergraduate Level 3 study with Master's-level study](#) and compare the competency descriptors. Make a note of, and think about the skills that are expected to have been developed by the end of your undergraduate degree, and those that you will continue to develop at Master's level.

3 Assessing your current DIL skills

The digital and information literacy skills checklist will help you to gauge your current level of confidence in understanding digital practice, and finding, using and creating information.

Activity 4 Evaluating your digital and information literacy skills (Part 1)

Allow approximately 10 minutes

Use the [digital and information literacy skills checklist](#) to evaluate your current skills and identify areas that need to be developed. You can use this as a reference point at the start of your postgraduate course and as you make progress with your studies, so keep it close at hand, and do make sure that you review and reflect on your progress regularly.

Discussion

Consider evidence that you can provide to demonstrate your attainment of each skill. At this point you are not expected to be able to demonstrate a high level of attainment covering all areas for each skill, but you should use this checklist to identify your current strengths and focus on skills that you need to develop further.

The activity below should help you to evaluate your current knowledge and confidence in the following key areas: searching for information, and evaluating and referencing your sources.

Activity 5 Evaluating your digital and information literacy skills (Part 2)

Allow approximately 20 minutes

Attempt the following simple diagnostic tests to evaluate your current knowledge of the following areas: (1) carrying out a general search, and (2) evaluating and referencing sources.

[Diagnostic test 1: Carrying out a general search](#)

[Diagnostic test 2: Evaluating and referencing sources](#)

Discussion

The 'general search' activity (Diagnostic test 1) assesses your understanding of how the internet works and how you can enhance general online searches. The 'evaluation and referencing' activity (Diagnostic test 2) allows you to check your knowledge of how to evaluate different sources of information and correctly reference these in your assignments or professional practice. You can repeat the short tests as often as you wish.

4 Recognising different types of information

At the simplest level, sources of information can be categorised into four main groups:

- **Primary literature** describes mainly new or 'original' material (e.g. a research paper published in peer-reviewed journals, or a patent).
- **Secondary literature** refers to material in which information that has appeared in another form is repackaged and disseminated more widely (e.g. review articles, academic textbooks and course materials).
- **Grey literature** is defined as 'articles and information published, especially on the Internet, without a commercial purpose or the mediation of a commercial publisher' (*Dictionary of Information and Library Management*, 2006). These include technical reports, government documents, working group documents etc.
- **Personal communication** is a potential source of information, often overlooked but becoming increasingly prevalent with the rise of social networking and online feeds (e.g. information from a colleague or expert opinion; online communication in a social networking site such as Twitter or Facebook; contributions to your own or other individual researchers, or group blogs and wikis).

Let's take a closer look at some main forms of primary and secondary literature (research papers and review articles), and explore 'grey' literature in a little more detail.

4.1 Primary literature

Primary literature is often written by specialists for specialists, so the authors assume that the audience has a high level of understanding of the specific terminology used in the subject area, as well as a good understanding of the subject area itself. Most primary research papers have the following sections (although not necessarily in this order): Title; Authors; Abstract; Introduction; Methods; Results; Discussion; Conclusion; and References. The Title and Abstract sections are typically informative, interesting and to the point, encapsulating the focus of the work. The main point of the Introduction is to establish how the paper fits in with previously reported work, to summarise the main points of the study and highlight the conclusions accurately and effectively. The Methods section is where the author(s) explains what they did to generate the results reported in the rest of the paper. This section is vital because it enables you to deduce whether or not the results are valid in the context of the research question or hypothesis. The Methods section also enables other researchers to repeat the work. It is, generally speaking, the most difficult part of a paper to grasp because of the level of detail involved. In addition to describing what they did in the Methods section, the authors will state what they found in the Results section (including statistical information derived from the analysis of the 'raw' data they have generated), and state their interpretation of the findings in the Discussion section. They will often extrapolate and generalise in this section to illustrate the key points they wish to make. The last section before the Reference list is usually a Conclusion, in which the authors state how the results, in their view, relate to the various hypotheses that they have proposed and/or have been previously proposed by others.

4.2 Secondary literature

Secondary literature is useful in helping you to engage with a new research area. It is generally easier to read than a primary research paper, but harder to evaluate in terms of authenticity and potential bias. A review paper can be thought of as an extended critical essay. The Introduction sets out the issue and the way in which it will be tackled through the rest of the review, while the main body of the review is taken up with a lengthy analysis of various points of view. In principle, the author attempts to do one of two things:

- Show how different perspectives, theories, hypotheses or pieces of work relate to a topic.
- Defend or propose a particular theory or hypothesis as being the best among many. To do this, the author has to emphasise the differences or controversies that cannot be accommodated within current theories. This is typically done by proposing a 'best-fit' theory or hypothesis of some sort.

The long middle section of a review paper is usually very closely argued and may appear to a non-specialist in the subject area as being entirely reasonable. The art of the scholar or critic (namely you) is to find out what the author is saying and whether what they are saying is valid and unbiased.

Most reviews present information in an objective way, however occasionally there may be errors of omission, e.g. crucial evidence that does not fit the argument being presented is intentionally omitted, or relevant articles that resolve the controversy under discussion in a different way are omitted. There may also be errors of interpretation, where the author highlights a particular aspect of a paper which was originally either ignored or played down, or there could be logical flaws in the argument that the review author is advocating, which conflict with the arguments presented by some of the original authors. Therefore, when reading review papers, you need to be careful how you interpret and use them – it is not unexpected to discover that two different people have started off with the same database of literature and ended up with very different arguments, both of which may be perfectly valid.

Like research papers, review papers end with a Conclusion in which the main points are repeated to allow the author to justify the claim they have made in their Introduction. In essence, review articles provide other researchers in the same (and different) subject areas with a quick overview of some of the key papers, findings, arguments and conclusions that have been extracted from a range of sources. Recently published review papers can therefore offer a good introduction to primary research papers that you may want to read yourself.

4.3 Grey literature

Depending on your particular study or research requirements, in addition to using conventional academic sources of information such as peer-reviewed journals, academic books, newspaper archives and data repositories, you may need to make use of grey literature. Grey literature can be made available more quickly than commercial publications (e.g. academic journals), as it does not go through a lengthy formal or commercial publication process and avoids time-consuming peer-review and editing. As such, it can be a useful source of information on current research and policy

developments, and may occasionally be the sole source of information for specific types of research questions. The most common examples of grey literature include:

- theses and dissertations
- unpublished research papers (e.g. available on institutional repositories)
- pre-prints (drafts of papers or articles which have not yet been published in a peer-reviewed academic journal)
- conference proceedings
- reports from specialist organisations
- company reports
- internal policy documents
- government reports
- committee working papers
- social media.

The quality of grey literature can vary, however. Therefore, when working with grey literature, it is important to select sources of information carefully, and to assess the quality of the material, noting in particular any potential for bias in the structure of the work completed, the way in which results are presented and the final outcomes, recommendations or conclusions listed (see Section 6).

The websites of professional organisations can provide access to discussion papers, policy reports and research papers. Standard search engines such as Google can be used to search the web for grey literature; however, a standard Google search is unlikely to find reports and documents from specialist organisations. Specialist search engines can trawl the deep web to find more specific documents (see Section 5.3).

5 Searching for information

In this section of the course, you will explore different ways to search for the information you need:

- using appropriate search engines and interrogating subject/discipline-specific databases
- selecting relevant keywords (search words)
- using bespoke library databases and search engines
- searching for information using Google Scholar.

5.1 Using appropriate search engines and interrogating subject/discipline-specific databases

The fact that a large amount of information is likely to already exist online means it can be easily searched. On the negative side, the sheer volume of information you might retrieve means it can be difficult to sort through this effectively. This is where search engines (and specialised search engines in particular) can help filter resources, when used correctly. When doing this, it is important to bear in mind that a fully comprehensive search might require the use of more than one type of search engine or database to ensure the full range of data in the deep web can be searched.

5.2 Selecting relevant keywords (search words)

The first step in carrying out an effective online search is to define what exactly you are looking for; you should do this by writing down your search question or query. Choosing the appropriate keywords is often the most difficult part of an effective search, so you need to think carefully about the words you use to make sure that your search returns the most focused set of hits.

Clearly, the type of search engine used will dictate the type of material you will discover. If you carry out a standard Google search, it will search the whole of the surface web and find all manner of articles. Using specialised search engines such as Google Scholar can help to filter your search and retrieve reliable sources from the deep web. Using more bespoke databases will help you retrieve further relevant sources from the deep web and subscription-only sites.

5.3 Using bespoke library databases and search engines

Library databases usually contain information about journal articles, books and theses, and provide a quick way to search this type of information invisible to standard search engines and located within the deep web or subscription-only repositories. Within a database, the information relating to each item (e.g. a single journal article) is called a

'record', with each record made up of a number of 'fields', containing data about any aspect of the item.

The most common fields listed in library databases are:

- Author/Artist
- Title
- Date of publication
- Summary/Description (e.g. an abstract of a journal article)
- Publisher/Source
- Key/Subject words.

When you run a search, the words you enter as search terms are compared to the words in the fields of each record.

One of the key skills to finding useful information for your studies is to be able to identify and use the right database. Some databases (e.g. Academic Search Complete) are multidisciplinary and cover several subject areas; others (e.g. PsycINFO) are more specialised and concentrate on a particular field or discipline area.

5.4 Searching for information – Google Scholar

Google Scholar can provide a useful search facility for peer-reviewed papers, theses, books and reports across all subject areas, as well as patents and legal opinions (US). However, do bear in mind that it does not cover all scholarly information. Therefore, to be sure that the information you obtain is comprehensive – you should not rely solely on this search engine (see Section 5.3). The following activity will guide you in carrying out an advanced search using Google Scholar.

Activity 6 Advanced search using Google Scholar

Allow approximately 30 minutes

- **STEP 1.** Go to the [Google Scholar Home Page](#) (you might want to add this page to your Favourites tab for easy access in the future). Carry out a search using a topic of your own choosing, and take a look at what is retrieved.
- **STEP 2.** You can improve the relevance of the returned results by editing your entry in the search box (e.g. by changing or adding to your keywords and using 'search operators'). This [Google Scholar Helpsheet](#) provides a summary of search operators that you can use to refine your search.
- **STEP 3.** Your search results are normally sorted by relevance, not by date. To find the most recent articles, you can specify settings in the left-hand sidebar on the results page in Google Scholar. By clicking on the 'since year' tab (e.g. 'since 2017', or you can specify a 'custom date range'), only publications since the date specified will be shown, automatically sorted by relevance. Clicking on the 'sort by date' tab will show just new additions, sorted by date. You can also have the results delivered to your email account by clicking on the 'create alert' (envelope) icon. Note that while abstracts are usually free for most articles, access to the full text may require a subscription (or require you to log in via your university library), unless the article is published as 'open access', in which case either a PDF or HTML version can be viewed freely online.

- **STEP 4.** If you find what looks like a particularly good article, you can find other potentially relevant articles by using the 'cited by' and 'related articles' links which often appear in the row of links under each search result. The 'cited by' link gives you a list of articles which have referenced the article you originally found (this also provides an indication of how many times the article has been cited). The 'related articles' link gives you a list of articles which Google Scholar considers to be similar to the article you originally found. The degree to which these are related is 'judged' by the similarity of the words in the article title, abstract and full text. Try using the 'cited by' and 'related articles' links with an article from the search you have just run.

6 Evaluating information

The ability to critically evaluate information is an essential skill for postgraduate study. Regardless of how much information you have found on your chosen topic, it is important to evaluate its quality and only use that which is pertinent to your research topic.

Your postgraduate study will involve investigating a wide range of primary and secondary sources of information (e.g. journal papers, academic textbooks and websites), and may also include some grey literature (e.g. governmental and NGO reports), as well as other sources of information. You may be familiar with some of these resources and trust their reliability, but what about other resources? How do you know whether the information you find is from a reputable source and can be trusted?

Articles published in reputable journals will have been peer-reviewed, i.e. experts in the field will have read the article before publication and confirmed that the contents are credible. This review process is typically anonymous, so that the authors cannot use their influence to get their papers published and the reviewers cannot preferentially recommend their colleagues' papers for publication. During the peer-review process, the reviewers will look at the confidence of the data obtained and the suitability of the methods of analysis. They will also look at the conclusions to ensure they are valid, unambiguous and based on the results presented in the paper, and confirm that the paper represents new findings and is not a direct repeat of work that has already been published, either by the same author or by others.

Resources you obtain from academic databases (including those noted in Section 5.3) involve reputable journals, so you can generally rely on these as 'credible' sources of information. Academic books and review articles published by large publishing houses or professional bodies are also typically expected to be reliable. Very occasionally, published papers are subsequently shown to be of dubious quality, e.g. where data or information has been made up or the authors have unknowingly measured something completely different. Such occurrences are rare but, to an impartial reader, will be difficult to spot. This is where sites such as [Retraction Watch](#) can help clarify issues of concern.

However, you are potentially more likely to come across dubious sources of information when searching the web. Although web resources generated by universities, professional bodies, government organisations and well-known publishing houses are usually reliable, you still need to make sure that any material you use from the web is reliable. Charitable bodies and pressure groups can be reputable, but care is needed as some (especially pressure groups) may provide biased information or views. You should also watch out for any bias in reporting, and aim to seek a balanced view by considering more than one source of information and weighing up the alternatives.

6.1 Evaluating information on the internet

It is particularly important to evaluate information you find on the internet, as anyone can create a website, blog or wiki and add information that appears to be authoritative.

Activity 7 What criteria would you use to evaluate a website?

Allow approximately 5 minutes

Think about the criteria you currently use to evaluate websites, and make a brief note of these.

Provide your answer...

Discussion

You may have chosen words such as 'current', 'relevant', 'authoritative', 'objective', 'clear' or 'accurate' when outlining your evaluation criteria. Although it may not be easy to judge whether a particular site is 'objective' or 'accurate' if it falls outside of your own particular field of study or specific discipline area, there are certain checks that you can make, which may require you to undertake further investigation and to consult additional sources to determine 'credibility' (of the site's author/organisation/copyright holder, for example), 'authority' and 'impact'. The Open University has developed a framework that can be used for evaluating websites, this has the mnemonic 'PROMPT' to help you remember it. There are six criteria, which we can use to evaluate information in a structured way. These are: Provenance, Relevance, Objectivity, Method, Presentation and Timeliness (PROMPT).

6.2 Evaluating information using the 'PROMPT' criteria

A useful way to systemically assess the credibility and potential value of any resource is to apply the PROMPT criteria. The table below outlines this structured approach. Activities 7–9 in the next section will allow you to explore three criteria (Provenance, Relevance and Objectivity) further. The presentation below offers further detailed guidance to support your evaluation. Take a look at Table 2 and view the presentation now before proceeding to complete the activities in the following section.

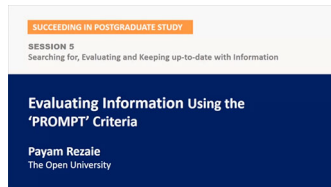
Table 2 Critical skills in assessing material – using the 'PROMPT' criteria

Provenance	Is it clear where the information has come from? Can you identify the author(s)/organisation(s)? Are there references/citations that lead to further reading? Are they credible sources in your view? Can the author or source of the information be considered a reliable authority on the subject?
Relevance	Is the information you have found relevant to the topic you are researching? Does it meet your specific requirements? Does it make sense in the particular context in which you are working?
Objectivity	Does the author or owner of the information make clear their own and/or alternative views? Is the article biased, or motivated by a particular agenda? Is the language emotive? Are there hidden, vested interests?
Method	Is it clear how the work was carried out? Were the methods appropriate? Do they permit the author to come to a sound and reasonable conclusion?
Presentation	Is the information presented and communicated clearly? Consider the language, layout and structure. Is the information clearly laid out and easy to navigate?

Timeliness How up-to-date is the material? Is it clear when it was written? Is it recent or dated? Does the age of the information matter – does it still meet your requirements, or would it be considered ‘obsolete’ for your purposes (i.e. for a specific assignment)?

Video content is not available in this format.

Session 5, slidecast 1: Evaluating information using the ‘PROMPT’ criteria



6.2.1 Evaluating the ‘Provenance’, ‘Relevance’ and ‘Objectivity’ of information

You will now carry out three activities to evaluate the first three parts of the PROMPT criteria: provenance, relevance and objectivity.

Activity 8 Evaluating the ‘Provenance’ of information

Allow approximately 5 minutes

Think about each of the following sources of information, and note down your view on their credibility. How would you go about determining this?

- A blog dedicated to human rights law, written by a member of Parliament.
- A wiki about the impact of climate change in developing countries, with many contributors.
- A research report into genetic variation in apes and humans by the Wellcome Trust.

Discussion

The blog. Although the blog may provide objective and authoritative information about human rights law, you would need to check the credentials of the blogger. Do they have any qualifications to write about law? Are they presenting their views from a particular political view point?

The wiki. Wikis can be useful ways for experts to discuss their views. However, you would need to check the credentials of the contributors and also how the wiki is set up. Can anyone contribute or is membership restricted? Are posts checked for accuracy?

The research report. The information is very likely to be credible as it was published by an acknowledged authority in biomedical sciences.

Activity 9 Evaluating the 'Relevance' of information

Allow approximately 10 minutes

Tim is studying *The Tempest* by William Shakespeare at Master's level and would like some background information on the play. Some of the websites he finds are listed below. Make some notes on which of these might be most relevant, and what factors he should consider when selecting from them. Before starting the activity below, we suggest you either print these instructions or open the links in a new tab or window.

- Key Stage 3 [Bitesize summary of The Tempest](#) on the BBC website.
- Online article in [Postgraduate English](#) published by Durham University called 'Anxious Memories in *The Tempest*'.
- An entry in Wikipedia about [The Tempest](#).
- A website that includes a [summary of the play](#) and links to essays other students have written. It has links to other plays by Shakespeare and allows the text of all of his works to be searched.

Discussion

The BBC KS3 Bitesize website. The website provides a good summary of the book, but it is very basic and so probably not appropriate for postgraduate level study.

The online article. The article is aimed at the right level, but is very detailed and specific to a particular aspect of the play – although it may contain some useful information, its focus is probably too narrow.

The Wikipedia entry. The entry seems on first impression to be close to what Tim is looking for – it offers information about the play, the historical setting and links to events and people of the period. However, caution is advised as the information needs to be checked – although it is relevant and seems well presented, there is little clue as to its objectivity or provenance.

The website. This looks interesting, although the summary is basic. The option to access and search Shakespeare's other works might be useful if Tim wants to explore how the same themes occur across plays. However, Tim also needs to be careful of the links offered on the site which go to other sites containing pre-written essays and projects about *The Tempest*. Using these works in his own assignments could constitute plagiarism, may also breach copyright, and would lead to disciplinary action being taken that could see Tim being cautioned, or if severe, even dismissed from his study programme (we will explore issues related to academic integrity and copyright in Session 6).

Activity 10 Evaluating the 'Objectivity' of information

Allow approximately 5 minutes

Sophie is researching the future of food production, in the light of population and price increases. Consider the objectivity of the following items she has found.

- A website dedicated to organic food production, which includes detailed information about efficient farming techniques.
- Research papers on the website of a company selling genetically modified seeds.
- An investigation by the United Nations into sustainable farming for the twenty-first century.

Discussion

The website. Although the information may be thorough and objective, it may also include some bias since the website is dedicated to organic food production and so has an interest in promoting this method of farming.

Research papers. These papers may be objective, but their selection and inclusion on the website could potentially be biased since the website is financed by a company with a vested interest in a particular product.

The UN report. The report is likely to be objective and unbiased as it has been prepared by an organisation that should investigate all aspects of this issue and provide impartial conclusions.

7 Keeping up-to-date with information

Keeping up-to-date with your subject area forms an essential part of your postgraduate studies and professional development. The ability to use online tools to help you keep up-to-date should help to save you time by ensuring that new and valuable information comes to you when it becomes available, instead of you having to repeatedly search for it. Tools that you can use include subscribing to mailing lists, RSS feeds, podcasts and various forms of alerts (including citation, journal and database alerts).

7.1 Mailing lists

The National Academic Mailing List Service in the UK, known as 'JISCMail', is a service designed specifically for further and higher education communities. You can explore [JISCMail](#) or [Google groups](#) for a mailing list relevant to your subject area. Read through the archives online to see what has previously been discussed, and subscribe if you think it would be useful.

7.2 RSS feeds

RSS (Rich Site Summary) feeds provide automatic updates containing information from websites such as news headlines, blog posts, press releases, forum posts and content updates. You can organise your RSS feeds into folders by setting up a 'feed reader' (such as Newz Crawler, FeedDemon or Awasu for Windows; Newsfire or MetNewsWire for Mac OS X), and easily see which feeds are showing when new content is available. Look out for the orange RSS symbols when browsing and click on them to add available feeds to your feed reader. The [BBC Newsfeeds page](#) has a useful guide to RSS feeds and feed readers which can help you get started. We examine RSS feeds in more detail in Section 7.6.

7.3 Podcasts

A podcast is a digital media file (audio recording) that can be downloaded and played on a computer or mobile device. Podcasts vary in length from several minutes to more than an hour depending on the nature of the topic and the number of participants (e.g. an event or broadcast series). Syndicate podcasts can be subscribed to and downloaded using an aggregator or feed reader in a similar way to RSS feeds. Podcasts can bring recent issues to listeners, provide information in an easily absorbed 'bite-sized' format, and allow people to interact with a community of experts and enthusiasts. For example, *The Guardian* online produces a series of [podcasts](#) across several areas (news and opinion, science and tech, culture and sport). You can search for podcasts relevant to your field using any search engine. Software such as iTunes, for example, has links to its own directory of podcasts that you can subscribe to using that software.

7.4 Alerts

Alerts are usually delivered to your email inbox automatically on a regular basis. In some cases, the service you subscribe to generates custom RSS feeds to add to your feed reader. You will have to register with the database or service to receive alerts. We will take a brief look at five of these here:

- **Database search alerts.** Once you have developed and run an effective search using a database, you may want to save it. Once a search history has been created, you can manually re-run a search at a later date without having to remember the search terms you used, or you can set it up so that the database re-runs your search regularly and emails you the results – this is known as a ‘search alert’. Most databases have guides which provide advice on using the different functions of the database, so try looking through these to find out whether the database you are using supports saving searches. You will usually need to register with a database in order to save your search. Recall that you set up a search alert as part of Activity 6 using Google Scholar (in STEP 3).
- **Citation alerts.** Citation searching is particularly useful because it mimics the way in which researchers use literature, i.e. looking at the references at the end of articles to determine others that may be relevant and useful. Citation searching is a method of searching that relies on entering specific details (e.g. name of a ‘key’ author, journal article or book). It is then possible to retrieve from the database other articles that have the original ‘key’ author, article or book cited in the bibliography. Recall that you explored the ‘cited by’ and ‘related articles’ queries as part of Activity 6, based on the article you selected (in STEP 4). Citation alerts can also be set up in some databases to let you know automatically when someone has cited an article or author you have found particularly useful. By using citation alerts you can build up a picture of important articles and authors in your field.
- **Journal table of contents.** To keep-up-to date with the most recently published issues of journals, you can set up ‘Table of Contents alerts’ using the [British Library Zetoc](#) or the [Journal TOCs](#) services. Alerts can be set up to be emailed to you, or be made available in the form of an RSS feed which you can add to your feed reader.
- **Articles accepted for publication.** It is possible to receive the details of some articles which have been accepted for publication, but have not yet been published. To do this you can use the ‘forthcoming titles’ or ‘articles in press’ tools which some journal providers offer. You will usually need to set up an RSS feed using a feed reader to receive information in this way. The key is to make a list of important and authoritative journals in your field of study, look for this functionality and set up an RSS feed if available/provided.
- **Conference Alerts.** [Conference Alerts](#) brings together conference organisers and academics who need to stay informed about conferences in their field. You can register for a subscriber account and a monthly email will be sent to you about conferences matching your interests.

7.5 Deciding which tool to use

Whether you are new to these tools or not, spending some time familiarising yourself with different ways to keep up-to-date may save you considerable time in the future. In deciding which tool to use, think about the answers to the following questions:

- Do I want everything coming into my mailbox?
- Where and how do I access these tools?
- What's the best use of my time?
- Will these tools expose information sources I haven't previously used?

The table below lists some pros and cons which may be useful for you to consider.

Table 3 Tools to keep up-to-date with information – pros and cons

Tool	Pros	Cons
Mailing lists	<ul style="list-style-type: none">• Easy to set up• Archived on the web• Opportunity for networking	<ul style="list-style-type: none">• May overwhelm your mailbox• Limited audience• Not always active
RSS Feeds	<ul style="list-style-type: none">• Updated frequently• Able to access full information (e.g. article, podcast or proceedings) from brief summary• Easy to manage	<ul style="list-style-type: none">• Need to set up a feed reader• Graphics and photos do not appear• Not always available
Alerts	<ul style="list-style-type: none">• Delivered to your mailbox• Relevance is high• Exposed to material you were unaware of	<ul style="list-style-type: none">• Dependent on the quality of your search• Have to register with several sites• Not available for every resource you may be interested in

7.6 Keeping up-to-date using RSS feeds

RSS feeds can be set up to keep you up-to-date with the latest content from journals that you regularly check or newly published book titles, with website information for those you frequently visit, or with blog posts. Subscribing to RSS feeds allows you to receive updates directly from websites without having to visit them yourself – and also saves time by providing all the updates you want in one place. You can subscribe directly by adding RSS URLs (web addresses) into your browser or through an RSS feed reader (also known as a news reader or aggregator).

The process of setting up a news feed (RSS) is straightforward, but will depend on the browser you use. For example, Internet Explorer asks you to 'subscribe to this feed', and gives you the option of adding links to news feeds directly to the 'Favourites' bar. Mozilla Firefox asks you to 'subscribe now', and gives you the option of using 'Live bookmarks' to place a link to news feeds on the top screen as the default option.

The benefits of RSS feeds include:

- automatic updates with new information from subscribed sites
- they save time by providing your updates in one place
- you do not need to register on many different websites
- your email will not be overloaded.

But they can have drawbacks, such as:

- they can be time-consuming to set up
- you need to remember to check updates
- it is easy to get carried away and subscribe to more information than is manageable
- the page you want to keep up-to-date with may not have an RSS feed.

So while setting up RSS feeds can save you time, you will still need to remember to check your feed reader and add or delete any RSS feeds, as well as reading the relevant feeds. If an RSS feed is not available, you will need to consider a different method for keeping up-to-date (see Section 7.5).

Box 1 Finding RSS feeds

Start by checking for RSS feeds on websites that you visit frequently. However, not every website will have feeds. Most news sites have feeds, and so do blogs. Journals often have feeds, so you can find out when a new issue is published and be able to see the latest content in the feed. Some databases offer saved search feeds. You can also use the following websites to help you locate relevant RSS feeds:

[RSSMicro](#)

[Feedage](#)

8 Citing and referencing sources

It is a standard requirement for academic and professional practice to openly acknowledge the words, thoughts and ideas of others, and not to present them as if they were your own. You should already be familiar with some of the conventions for citing references within documents and acknowledging your sources of information (in-text citations and including a comprehensive reference list at the end of a document). By including appropriate references, you are not only acknowledging the work of others, but are demonstrating how your own thoughts and ideas have evolved and developed based on your critical synthesis of the existing literature. In-text references allow you to clearly differentiate between your own ideas, interpretations and conclusions, and those of others. By correctly referencing your work, you are enabling others to identify and retrieve the sources you have used, and thereby allowing them to verify the authenticity of your work.

From your experiences of reading different types of primary and secondary literature, you will have become aware of good academic practice when quoting and referring to the work of others. Failure to reference appropriately is considered poor academic practice, and could be further construed as an attempt to 'deceive' the reader regarding the originality and authenticity of your work (whether intentionally or unintended), which would be regarded as plagiarism. We will examine academic integrity and guidance on using information responsibly and developing good academic practices further in Session 6.

8.1 Referencing systems

Although styles of referencing differ, referencing systems can broadly be categorised as either 'alphabetic' or 'numeric':

- **Alphabetic referencing** is where the author's surname and date of publication are listed in the in-text citation, while the final reference list is sorted alphabetically. The most commonly used example is the Harvard referencing system.
- **Numeric referencing** is where the sources used are allocated a number based on the order of their first occurrence in the text, with this number listed in the in-text citation, while the final reference list is ordered numerically, comprising of the author's name, year of publication and other reference details. The most commonly used example is the Vancouver referencing system.

Different disciplines have their own specific requirements and referencing conventions. The referencing system used will often depend on the precise discipline of study and may vary depending on the preferences of the leading journals or organisations in that area (e.g. the American Psychological Association referencing system). Irrespective of which system you use, the key to good referencing is consistency in practice, ensuring in-text citations are used appropriately throughout the text, while the full reference list at the end of the document allows the reader to retrieve these sources.

The alphabetic system allows the reader to instantly note which authors are being cited and the year of publication of their work. For the numeric system, the reader will need to refer to the final reference list to see which authors are being cited, and what the year of publication is. A version of the Harvard referencing system has been adopted for use by The Open University. You can download the full guide by following the link below.

[OU Harvard guide to citing references](#)

You should ensure that you are familiar with the referencing requirements for your postgraduate course and use referencing styles specified by your institution and professional discipline area.

8.2 Working with secondary (or indirect) references

At postgraduate level you are typically expected to have read widely and consulted the primary literature. On some occasions, you may find that you want to refer to information or a direct quotation taken from a source that has been cited in an article you have read. This constitutes a secondary (or indirect) reference, in that you have not read the original piece of work, but are citing what the author of the article you have read has said about this other author's work.

In such cases, you need to make it clear you have not consulted the secondary reference, but are citing this from the context of the primary reference you have read. For example: 'According to Rüggeberg et al., as cited by Knudson et al. (2010), ...'

or

'As noted in Knudson et al. (2010), Rüggeberg et al. showed that...'

By using phrases such as 'as cited by' and 'as noted in', you are clearly indicating that you have not read the work by Rüggeberg et al., but are referring to the interpretation of this work by Knudson et al. As the paper by Rüggeberg et al. is a secondary reference, it should not be included in your final reference list. Your final reference list should only contain resources you have read (i.e. your primary references). Given the potential for misinterpretation and/or misrepresentation of another author's work, you should use secondary references sparingly and avoid them if possible. If you do need to use a secondary reference, make this very clear in your text.

8.3 Digital object identifiers (DOIs)

If you look at a recently published journal article you will find a digital object identifier or 'DOI' reference associated with the article (often on the front page). These typically take the format 'doi:10.1016/...'. The DOI reference system was adopted as standard across the sector in 2000, as a mechanism to index all journal publications.

You can convert the DOI reference into an active URL by listing 'http://dx.doi.org/' in front of the number (e.g. <http://dx.doi.org/10.1016/j.sbspro.2016.07.086>). This link will then take you to the original journal publication. For open access papers, you can use the direct URL/DOI at the end of the full reference if you are sure it will remain stable and accessible. If you use web links in your references, you will also need to note the date that you accessed each link, so that the reader can see when the resource was last available (in case the link is no longer active or the resource has subsequently been updated, replaced or removed).

Activity 11 Citing and referencing sources

Allow approximately 20 minutes

- Retrieve two articles from the search you carried out using Google Scholar (Activity 6).
- Make a note of the referencing system used (i.e. alphabetic or numeric) and the style in which the in-text citations and final reference list are presented.
- Based on your previous studies and experience of working with primary literature, determine which referencing system (alphabetic or numeric) is most applicable to your subject area. Locate and read the relevant referencing guide for this system, noting in particular how different types of resources should be referred to in the text and in the final reference list.

9 Developing your selective and critical reading skills

Session 4 introduced you to a process for critically reading and selecting relevant material. We expand this here and provide you with tips that will help you to develop your skills further.

- **Is it worth reading?** To read an article in a critical manner takes time. You need to sift out unimportant or less relevant information first, so that you can spend most of your time concentrating on those you perceive as being really important (see Section 2 of Session 4 'A process for reading and selecting relevant material'). Articles generally tend to follow a particular format and style, which makes it possible to locate and evaluate certain information quickly (for example, the section headings of a paper published in an academic journal). The format and style can be exploited to make finding and assessing the material quicker as part of critical reading. Use scanning to locate particular information and skimming to pick out key words and main themes in the content. Then you can decide whether to invest further time in critically reading more of the article.
- **Skim-read the article to identify the important parts that need detailed analysis.** Note which sections will require brief notes and which sections can be ignored. This is always a difficult task, but you have to be ruthless. It is very easy to waste your time reading something that is interesting or easy, but is not relevant to your studies. You have to make a clear decision about what is important and what is peripheral.
- **Decide which key points you want to extract from the article that are relevant to your studies.** This may be key arguments or conclusions, data, tables, figures or diagrams. Write down in your own words the information you want to extract, and include brief details.
- **Look out for 'pointers' or 'keywords' in the text that alert you to ask critical questions.** 'However' may introduce an opposing view or contradictory evidence. Can you identify any author bias? 'Although' is a qualifying word. Is the evidence reliable? Does it really support the argument? 'Therefore/so' can be used to draw together the argument when making a concluding statement. Is the conclusion logical? Is the reasoning justified? 'Probably/possibly' may be introducing an unsubstantiated generalisation. 'Generally/most/many/some' and 'may/appears/seem to' are qualifying words which allow for exceptions to a statement. Does this weaken the argument?
- **Ensure that you make a note of relevant bibliographic details** (e.g. author, title, journal, volume, year, page numbers, DOI or URL etc.), and write some brief summary notes that offer a more detailed insight into the relevance and focus of each piece of information you have selected to include in your work (see Section 2 of Session 4).

10 Summary and reflection

The activity below encourages you to reflect further on the session.

Activity 12 Reflecting on Session 5

Allow approximately 20 minutes

- Based on what you have learned in Session 5, either create a **mind map** or write a **reflective journal entry** on ONE of the following topics: 'Types and sources of information' or 'Evaluating information'.
- Use your mind map to reflect on the topic and identify any areas that you are unsure of, or think you should develop further.

Take a look at the digital and information literacy skills checklist that you completed in Activity 4 and assess your level of confidence in the following areas: (1) understanding and engaging in digital practice, (2) finding information, (3) using information.

Now go back to your academic and professional skills checklist from Session 1 and look at how you assessed your ability in the 'academic and information literacy' domains. If you think that you are now at a higher level of understanding than your initial estimate, then mark this down on the form.

Remember to review your progress at the end of each session, as you work through the course.

11 This session's quiz

The end-of-session quiz gives you the opportunity to check your understanding and progress. It consists of three questions and will help you to prepare for the longer end-of-course badge quiz.

[Session 5 practice quiz](#)

Open the quiz in a new tab or window (by holding ctrl [or cmd on a Mac] when you click the link).

12 Closing remarks

This brings Session 5 to a close.

In the next session, we focus on using information responsibly (looking at issues related to academic integrity, copyright, use of social media), and explore how collaborative group work and feedback can operate to support learning in an online asynchronous environment.

You can now go to [Session 6](#).

Session 6: Using information responsibly and communicating in an online learning environment

Introduction

Welcome to Session 6, where we continue the theme of digital and information literacy. In this session, we explore the use of social media for research and for keeping up-to-date with information, consider issues around finding material online, take a look at intellectual property and copyright, and test your understanding of academic integrity. We will also briefly explore how collaborative group work and feedback can operate to support learning online.

By the end of this session you should be able to:

- understand issues related to the use of social media, copyright and academic integrity
- understand how collaborative group work and feedback can operate to support learning in an online asynchronous environment.

1 Using social media

Let's begin this session by looking at how social media can be used for academic purposes, before moving on to how you can use Twitter to keep up-to-date with information.

Social media services are accessed through the internet and enable communication, collaboration and interaction (sharing of contents) through various web-based tools. You may already be familiar with commonly-used social media tools such as Facebook, LinkedIn or Twitter. You can also use social media to find information, ask for answers and opinions, share knowledge, carry out research and build a network of useful contacts.

Box 1 Commonly used social media tools

Commonly used social media tools include:

- forums
- blogs
- wikis
- Twitter
- Facebook
- LinkedIn
- Skype
- YouTube
- Flickr
- SlideShare
- Diigo

Search engines that search across social media, such as [Social Searcher](#), give you the ability to select and search a number of named social media sites at a time, or to select a type of social media tool (e.g. blogs or images).

Social media services are inclusive because users themselves can contribute to and share the information in online communities. Information and material contributed to social media is known as 'user-generated' content. We will be looking at one or two of these tools in later activities and seeing how relevant they might be for your own academic, research or professional purposes.

Box 2 Why use social media?

As the name implies, social media enables you to interact socially, online, in a variety of ways.

You can use social media to:

- collaborate on work and projects
- share material, information, videos or favourite websites
- give or receive feedback or comments from a varied group of people
- keep updated on events
- let people know what you are working on
- interact in an informal and real-time environment.

You can exploit these tools in your studies by searching for relevant information or by becoming part of an online community, asking questions or making comments for others to respond to. Although social media tools contain user-generated content and may not be actively moderated (or 'controlled'), most do have guidelines for acceptable use that users are expected to abide by. These include respecting others' views and showing common courtesy when posting your own views or material online, also referred to as 'netiquette' (internet + etiquette). An example of some guidelines can be viewed at the website [BBC Webwise | Making the Most of Being Online - Netiquette](#)

Twitter offers fast updates in small messages on what people are doing and is also used to relay events as they unfold (i.e. in 'real time'). Social networking sites like Facebook or LinkedIn allow family, friends or professional and business contacts to locate and get in touch with you, check your status or interests, and catch up with what you have been doing. Skype can help you keep in touch with friends, colleagues or associates over long distances via its phone, chat and video services. We will explore Twitter and others later on in the session, but first we will take a look at forums and blogs, which have been around for some time as a means of communicating online.

Box 3 Useful questions for evaluating social media

The following set of questions are useful in evaluating social media:

- Do you need an account to use all options and functions?
- Is payment required for some services?
- Is there a limit to any uploads?
- Is online help, or a guide, available?
- Is the content relevant?
- Are there links to other related items?
- Is the content from a reliable source?
- Do you find the tool easy to use? And to navigate?
- Is it the right tool for your purpose?
- Do you like using it? Would you use it again?

1.1 Internet forums

Internet forums are formal or informal discussion spaces/sites where people can take part in conversations by posting messages, comments and questions. Forums are sometimes called message boards or discussion boards. A group of responses to a particular question or commentary form 'threads' in a discussion. Usually you need to subscribe to the forum to be able to post a message. Some forums have a moderator who monitors the discussions and may not allow certain messages or may delete inappropriate ones. Forum discussions may also have RSS feeds so you can be alerted to new messages on a relevant topic or replies to a question you have posted.

Box 4 Evaluating forums

The following set of questions are useful for evaluating forums:

- Are the messages current?
- Are they relevant to your research (if this is your topic or interest)?
- Is the forum moderated?
- Are there replies to questions?
- Do you feel that the information given in the replies is correct?

- Is there any advertising in replies (however subtle)? This could be an example of 'astroturfing' where users promote their own products and services.
- Is the language acceptable? Some forums may have messages that are intentionally argumentative or inflammatory. This is known as 'trolling'.

Activity 1 Evaluating forums

Allow approximately 10 minutes

[Postgrad forum](#) 'aims to bring together students, postdocs and lecturers to discuss issues relating to postgraduate study'.

- Go to the site and take a look at some of the threads and latest messages posted to the forum.
- You can refine your search by category (e.g. Master's study), forum or specific keywords.
- Take a look at the ['rules' page](#).
- Use the questions from Box 4 to evaluate the forum.

1.2 Blogs and microblogs

A 'blog' (or 'weblog') is a regularly updated website or a web page post that is run by an individual or a group, offering personal, professional or organisational viewpoints. Blogs are often written in an informal or conversational style. They are regularly updated and can be sources of relevant information on many different topics. Once you have found a blog, or a blogger, that you know has authority in the area you are researching, periodically reviewing these can be a good way to keep up-to-date in your subject area. Some also allow you to set up an RSS feed to have regular blog posts sent directly to you. Many blogs also contain links such as tags, categories and references to other blogs. These can all lead to information relating to your chosen subject, research or area of interest. You can use any search engine to find blogs, but there are those that are dedicated to blogs searches including [BlogSearchEngine](#) or [Twingly](#) (which has advanced search options).

Twitter is probably the best-known 'microblogging' site. Rather than the longer posts in blogs, Twitter posts ('tweets') are a maximum of 140 characters. You can choose to subscribe to, or follow, a person's tweets and become a 'follower' as well as sending your own messages. If you choose to follow a number of people or organisations that you are interested in, it gives you a network to share information with, ask questions of, or pass comments on to. So as well as being a method to post information, it is also a social networking site. You may wonder how you can keep up with this if you follow a number of people, but bear in mind that you do not need to engage with it constantly or read all the posts – there simply would not be enough time – you can just dip in and out of the 'Twitterstream' when you like.

You can also search Twitter for mentions of organisations, products, research, names etc. Following a known academic or professional organisation that tweets regularly can be useful. Check personal or institutional web pages to find relevant people.

Activity 2 Introducing Twitter

Allow approximately 10 minutes

If you know someone on Twitter, you can search for their name to see their 'Twitterstream' and also see the people or organisations they are 'following'. If you are not already familiar with Twitter, try a [Twitter search](#) at this point (or you can look up the most popular users on Twitter). Click on the underlined name in one of the tweets to see their Twitterstream and check out how many people or organisations they follow.

1.3 Social media tools for sharing multimedia

There are a number of social media sites for uploading your photos, images, videos or presentations. These provide a web-based store for your material and also allow you to show and share your work if you wish. Sites usually allow ratings or comments if your work is made publicly available.

You can freely search or browse for videos on the video sharing site [YouTube](#). However, if you create an account this will enable you to save your favourites as well as upload your own videos. Videos on standard YouTube accounts are less than 15 minutes long.

[Flickr](#) is an image and video sharing site, which aims to help organise your digital photos or videos, and you have control over who can see them. Viewers can also comment on them and add tags. The tags then make it easier to find items as they are all searchable. An account is needed to upload content. Publicly available content is also a searchable resource.

[SlideShare](#) is a site for sharing presentations and videos. You can find slide presentations on a wide range of topics. The content also has documents, videos and webinars.

YouTube, Flickr and SlideShare are not only good for sharing videos, images and slide presentations but also for storing them so that they are accessible from any computer, or mobile device, with an internet connection. You may have seen that other websites also contain links to YouTube videos.

Keeping your bookmarks, or favourites, in a web-based application like [Diigo](#) saves them being tied to one computer and they can also be shared. You might find useful bookmarks on other people's lists with similar interests.

Copyright applies to online content just as much as it does to print-based materials. If you want to re-use any visual materials, such as photos and images, you will need to check the copyright or licence. We will discuss copyright later on in this session. If you refer to online material or information in your academic work then it needs appropriate citing and referencing too (see Section 8 of Session 5).

1.4 Social bookmarking

When you find a useful web page, you probably save a link to that page by 'bookmarking' it (i.e. adding it to your 'favourites' or 'bookmarks' in your web browser), but you can typically only access these bookmarks from the computer you used to save them. Social bookmarking is good for improving your access to useful websites because it allows you to access them from anywhere, not just your own PC. Social bookmarking sites, such as [Diigo](#) and [Pinterest](#), have additional advantages:

- They allow you to share your favourite websites with other people.
- You can add keyword 'tags' to sites you save so that they can be grouped together. These tags can also be used to search the saved bookmarks. As users choose tags already used by others a 'folksonomy' develops, which is a user-driven method of categorising bookmarks.

Bookmarking sites can be searched for sites that users have added to their lists on particular topics.

You can then use tags that have been added to users' lists to find relevant websites for your own interests. You can also view the bookmarks of users with similar interests to your own research topic. Other examples of bookmarking sites include [Mendeley](#), which stores and manages your references and helps create bibliographies, and [Zotero](#).

1.5 Social networking

Businesses and professional organisations are increasingly using Facebook, LinkedIn and Skype to connect with people. [Facebook](#) can be set up to allow comments to be added (to your 'wall'). You can load photos, add favourite links, chat online and update your status to let your contacts know what you are doing. [LinkedIn](#) provides a similar service and is useful for contacting and keeping in touch with work colleagues and building a professional network. [Skype](#) is freely downloadable software that enables phone and video calls, web conferencing, screen sharing and online chat. Often used for families and friends to keep in touch around the world, Skype is also used by businesses and professionals for communicating (sharing desktops, websites, and files) and for conference calls. Some people have concerns about privacy on social networking sites; there are settings that allow different levels of privacy, but generally speaking it is wise to be discreet about your personal information.

Activity 3 Comparing social media

Allow approximately 20 minutes

Use the questions from [Box 3](#) to compare two or three different social media tools, and evaluate their usefulness and relevance for research: Twitter, Facebook, LinkedIn, YouTube, Flickr, SlideShare, Diigo.

- Which social media tool did you feel gave you the best result for your search?
- Which one(s) did you prefer and why?
- Reflecting back on the session so far, think about some of the advantages and disadvantages of using social media tools for your academic or professional work.
- Which tools will you be using in the future?

2 Using Twitter to keep up-to-date with information

If you would like to keep up-to-date with people and organisations (including academic publishers and professional bodies), an effective way to do this would be to follow them on Twitter. As a postgraduate student your studies will have greater focus, which means that you need to be selective in the resources you use, and the organisations in which you are interested in. The key to this is finding one or two good sources of information on your subject, finding out who they follow and who is following them. If you have questions about Twitter, useful places to start are [getting started with Twitter](#) and the [Twitter new user FAQ](#).

2.1 Useful features of Twitter

'Hashtags' in tweets take the form of, for example, #postgraduatestudy (note that two or more words are joined together in this example; capital letters are optional). Hashtags are used to indicate the subject of the tweet. They are clickable links – when you click on a hashtag, Twitter runs a search for all recent tweets which include that topic. Try searching for #postgraduatestudy and #mastersdegree for yourself and take a look at some of the posts.

Individual accounts, however, are set up with the '@' symbol preceding a name, e.g. [@pgsearch](#) (Twitter account of postgraduatesearch.com), [@postgradsteps](#) (Twitter account of the UK Higher Education Council's 'Steps to Postgraduate Study' guide to asking the right questions about taught postgraduate study in the UK; see [postgradsteps.hefce.ac.uk](#)).

2.2 Using Twitter hashtags to follow conferences

Some conference organisers encourage participants to tweet about conferences as they happen. Participants will be encouraged to use a particular hashtag so that anyone using Twitter can read updates about the proceedings.

Table 1 Twitter pros and cons

Tool	Pros	Cons
Twitter	<ul style="list-style-type: none">• Opportunity to network• One of the fastest ways to receive news• Able to follow conferences through attendees' tweets	<ul style="list-style-type: none">• Volume of tweets can be considerable• The same hashtags can be used in different contexts• Limited information displayed in 140 characters

2.3 Managing Twitter effectively

There is a useful set of facts and tips in [Twitter basics](#), including their rules and best practices. Once you have an account you can check your settings, set your preferred privacy level and add personal information to your profile.

The following tips may help your Twitter account evolve into something relevant to your needs:

- Follow individuals and organisations in your field and check out who they are following.
- Aim to follow somewhere between 20 and 100 people and organisations on Twitter to achieve a good critical mass of information.
- If you have to check your account more than once a day just to keep up, consider refocusing and cutting down the number of people you follow.
- Remember that it is okay to stop following people if they make a lot of irrelevant tweets.
- Follow new people if their tweets are retweeted regularly by those you follow.
- You can share interesting discoveries by tweeting them to your followers.
- It is possible to run a search on Twitter and generate an RSS feed which you can add to your feed reader.

Activity 4 Posting on Twitter

Allow approximately 10 minutes

If you already have a Twitter account, you can proceed to the next step; otherwise, take a few moments to set up an account. Then undertake the following tasks:

- Post a comment to Twitter using the hashtag #OUSPGS.
You can comment on any aspect of the course and its contents. For example, you might like to share your thoughts on which parts of the course you have enjoyed the most so far, topics or issues that you have found particularly interesting or thought-provoking, or skills that you wish to develop further. Or you can simply say a bit about yourself and where you are going with your studies and your professional career.
- Run a Twitter search for #OUSPGS and take a look at what others on the course have commented.

3 Intellectual property and copyright

As noted in Session 5, providing accurate references to information that you use in your written work is essential at postgraduate level. You will be expected to demonstrate your ability to refer to the thoughts and ideas of others in your work accurately and appropriately, to avoid plagiarism, and to show evidence of your ability to use, manage and communicate information responsibly.

This section introduces what is meant by intellectual property (IP) and copyright, and the protection that is usually given by law to an author for their own work. These key concepts, often regarded as the 'rights' of an author, are then placed in an academic context, in terms of ownership of IP and copyright. These are broad and complex areas, which vary considerably from one field to another, and even within the same discipline area, and there are country-specific laws and protocols covering copyright and IP. Consequently, this section covers only some general principles. Should your current or future work take you further into these areas, you would be well advised to seek expert guidance on legal frameworks that operate in the relevant country and relevant issues (e.g. around commercial exploitation etc.).

3.1 What is intellectual property?

Generally speaking, IP refers to any form of creative output – more specifically, a person's ideas. 'Property' is a key term here. Like other forms of property (such as land, buildings, manufactured goods and handmade artefacts), IP can be owned, bought, sold, leased, inherited, etc. Today, IP is protected by laws generally known as IP rights (IPRs). These laws will vary from country to country but, to give you a useful example, here is what the UK Patent Office regards as the four main categories of IP:

- patents for inventions
- trademarks for brand identity
- designs for product appearance
- copyright for material (namely, literary and artistic material, music, films, sound recordings and broadcasts), including software and multimedia.

The [World Intellectual Property Organization](#) website provides further information and a comprehensive overview of issues relating to IP and copyright. Their publication entitled [What is Intellectual Property](#) provides a useful synopsis.

3.2 What is copyright?

Broadly speaking, copyright is the protection given by law to an author for his or her work. The word 'author' refers not only to writers, but also to artists, composers, architects, etc. In addition, the legislation gives protection to people who make any audio or visual recordings or who prepare editions of books, and protection to media broadcasters for their broadcasts. Therefore, copyright is originated by an author, and protects *physical forms* of the author's work. Furthermore, copyright owners have the sole right to use their works or to authorise others to use them. Because copyright is technically a form of property, it can be split up and transferred from person to person by gift, sale or licence (or

on death). Once it has been transferred, the original author loses ownership – copyright has been ‘passed on’ to another party. ‘Licence’ or ‘licensing’ are terms used to define the permission given by the owner of the IP rights to a third party. The owner may charge a fee for granting the use of a licence and could well impose terms and conditions on its use as part of the licence.

In the UK, copyright is automatically applied to the expression of an idea. This means that an idea itself does not have copyright protection, but if that idea has been expressed in a piece of writing or music, a design, a sculpture or any other permanent form, then it has copyright. You can find out more at the [Intellectual Property Office’s](#) website. Copyright in a work is protected by the UK Copyright, Designs and Patents Act 1988, which grants the owner the right to prevent anyone making copies of their work without permission.

However, there are some exceptions to copyright when you are studying, as the page on [Non-Commercial Research and Private Study](#) explains.

For your academic studies, when referring to other people’s work, as long as you acknowledge your sources, and cite these appropriately, most of what you need to do should be covered by ‘fair dealing’ exceptions, which allow the use of part of a published work for non-commercial research or private study, for criticism or review purposes. However, you should always check additional guidance and regulations provided by the institution where you are studying. For example, The Open University Library requires all users to comply with the ‘Eduserv User Obligations’ when making use of online resources.

3.3 Who owns copyright?

The first owner of the copyright in a work is usually the person who brought the work in question into existence (e.g. the author of a novel, the painter of a picture, or the composer of a piece of music). Interestingly, it is a different system with films and sound recordings, where the first copyright owner is usually the person who made the arrangements to enable the recording or film to be made. The law in many countries does not require any formalities to vest (i.e. assign) the copyright to the original owner. The owner may license various uses of the work and, indeed, may completely transfer copyright entirely.

However, where a work is made by an employee in the course of their employment (or by a student as part of their studies), then the copyright usually belongs to the employer. This is usually made clear in the contract of employment (also referred to as ‘terms and conditions’). Note that this includes work done outside normal hours, or on private equipment where it clearly relates to their contract of employment. It is worth noting that this can be an area of conflict between employees and employers, so if this is something that you may venture into at some point in the future, you should seek expert advice.

3.4 Finding images and copyright

During your studies you may want to draw upon images and incorporate these into your assignments. If you are unfamiliar with copyright and using images in your academic work, then work through the following section.

Activity 5 Images and copyright – checking assumptions

Allow approximately 5 minutes

You are writing your assignment and you think that some images or diagrams will enhance your academic work. Should you be concerned about copyright? Consider whether you agree or disagree with the following statements:

- If I find an image on the web, I am free to use it in my work.
- I can use an image as long as it does not have the word 'copyright' or the copyright (©) symbol on it.

Discussion

You will not be able to use an image you find on the internet unless you have explicit permission from the copyright owner of the image. The majority of images available online are fully copyright protected. Copyright protection is automatically given on any original work that has been created. It gives the owner legal protection against others using, copying or adapting their material without their permission, so just because you can access an image does not mean you can freely use it as you wish, but see Section 3.2, concerning 'fair dealing' exceptions.

An image does not necessarily have to have the copyright symbol or word on it for it to be protected by copyright. All images are protected by copyright. In order to copy, share, manipulate, reproduce or use an image, you will need to gain permission from the copyright owner, or make use of copyright cleared material. There are options available for finding copyright cleared materials for your work. This section will take a look at some of these.

Box 5 Copyright and images – frequently asked questions

- **Who owns copyright on an image?** The creator of the image will typically be the copyright owner. However, copyright can change hands and it is important to determine who the legal copyright owner is before using any image. Copyright is a property right and like property it can be bought, sold or bequeathed to a new owner.
- **What happens if I do not check copyright?** Using an image without obtaining permission from the copyright owner could result in (1) demand for payment from the copyright owner, (2) potential legal action from the copyright owner, (3) your academic work being rejected by your institution.

- **How do I find copyright cleared images on the web?** There are a variety of ways to find copyright cleared images on the web. Images that are 'copyright cleared' can be used under varying licences and permissions. Some licences allow images to be used in educational work only. If you want to use images for any other purpose (i.e. commercial), you will need to obtain permission from the owner of the resource. You can use search engines, image databases or Creative Commons photo-sharing websites to find copyright cleared images on the web.

3.4.1 Finding images using search engines

Potentially thousands of images can be returned from a search carried out using a search engine such as Google. Copyright information for all of these results cannot be quickly or easily found, and you would need to investigate each image source individually to get the information you need – unfortunately, the information given is generally poor or non-existent. In Google, you can refine your search by using 'search tools', selecting 'usage rights' and then selecting images that are 'labeled for reuse' options. The number of returns is significantly less, and these images are all under a copyright usage licence, allowing the public to reuse the images as long as they are attributed correctly. However, it is still important to check the image details closely. People can, and do, upload images that they do not own the copyright to and make them available under various copyright licences.

Google image search is a quick and easy way to find lots of images, but a lot of time and effort can be wasted in determining the copyright owner and gaining permission to legally use these images. Other issues to be aware of are the variations of image quality and file size.

3.4.2 Finding images using image databases

Another option is to use copyright cleared image databases. Copyright cleared images are images which have been made available for use under various conditions. This means that the owner of the image has given permission for their image to be used in accordance with the terms stipulated. Many images have been copyright cleared for educational purposes. Such images can be found in image databases which are unable to be indexed by Google. One such resource is [MediaPlus](#) (a service delivered to the UK higher and further education community in association with JISC). Images covered by the eCollections licence are copyright cleared for subscribers to use in education, but the source and copyright owner must always be acknowledged. For subscribing institutions, this means that these images:

- can be included in teaching materials or assignments
- can be placed within a password protected environment like your course website
- may NOT be uploaded to YouTube or Facebook
- the source and copyright owner must always be acknowledged.

If an image is not part of the eCollection you need to click on the link to the collection holder's site to find out more about copyright and terms of use. You can limit your search to just see records that are covered by the eCollections licence. It is recommended that

you read the terms and conditions of each resource if you are unsure about the use of an image.

3.4.3 Creative Commons and Flickr

Photo-sharing websites such as Flickr can be used as sources of images. During your search you may come across [Creative Commons Symbols](#) and Creative Commons licences, which allow you to use images under certain conditions, with different licence attributions permitting different usage rights. Regardless of what licence the image is under, you should always:

- credit the copyright owner (author or creator)
- provide the title of the work
- provide the URL
- indicate the type of licence it has been made available under
- keep intact any copyright notices placed by the copyright holder.

Boxes 6 and 7 provide a summary of Creative Commons licences and conditions. For more detailed information, see the [Creative Commons](#) website.

Using photo-sharing sites such as Flickr, which allow you to search for images under Creative Commons licences, can save you time and effort. However, you should be mindful that it is still important to evaluate images that you find. Be aware that people can, and do, upload images that are not their own and make them available under Creative Commons.

Box 6 Creative Commons conditions

There are four conditions available under Creative Commons, which can be used in combination to create licences for image use:

- **Attribution.** You can let others copy, distribute, display and perform your copyrighted work (and derivative works based upon it) but only if they give credit the way you request.
- **Share Alike.** You allow others to distribute derivative works, but only under a licence identical to the licence that governs your work.
- **Non-Commercial.** You let others copy, distribute, display and perform your work (and derivative works based upon it), but for non-commercial purposes only.
- **No Derivative Works.** You let others copy, distribute, display and perform only verbatim copies of your work, not derivative works based upon it.

Box 7 Creative Commons licences

The following licences can be created using the conditions:

- **Attribution.** This licence allows the public to use, distribute, manipulate and create derivative works for any purpose, even commercially, as long as the copyright holder is credited for the original image.
- **Attribution Share Alike.** This licence allows the public to use, distribute, manipulate and create derivative works, even for commercial use, as long as the

copyright holder is credited and the new works are licensed under identical terms. All new works using the image must carry the same licence, so any derivatives will also allow commercial use.

- **Attribution No Derivatives.** This licence allows for redistribution for both commercial and non-commercial purposes, as long as it is not altered or manipulated in any way. The image must remain exactly as it is and in whole, and credit must be given to the copyright holder.
- **Attribution Non-Commercial.** This licence allows the public to use, distribute, manipulate and create derivative works but not for commercial purposes. As with all Creative Commons licences the copyright holder must be credited for the original image. Derivative creations do not have to be licensed under the same terms as the original image.
- **Attribution Non-Commercial Share Alike.** This licence allows the public to use, distribute, manipulate and create derivative works but not for commercial purposes. The copyright holder must be credited and the new works must be licensed under identical terms. All new works using the original image must carry the same licence, so any derivatives will not allow commercial use.
- **Attribution Non-Commercial No Derivatives.** This licence is the most restrictive. It allows the public to download work and share with others as long as they credit the copyright holder. Works under this licence cannot be used commercially or changed in any way.

4 Using and communicating information responsibly

Your postgraduate studies will expect you to demonstrate academic integrity and develop good academic practice at an advanced level. Good academic practice includes developing your writing skills and acknowledging your sources. This also means being able to demonstrate your ability to use and communicate information responsibly, and to avoid plagiarism. 'Plagiarism' can be defined as 'passing off someone else's work as your own without acknowledging the source'. If it is not clear from your work when and where you have used the work of others, then this could be classed as plagiarism and may have serious consequences (plagiarism is considered academic misconduct and carries disciplinary penalties).

For you as the student, acknowledging your sources of information shows:

- the reading and research you have undertaken
- that you are giving credit to the ideas and work of others
- that you know how to cite and reference.

For the reader of your work, it shows:

- the original sources used, which can be followed up if wished
- which are your own words and ideas and which are those of others
- that you are reading the literature expected to give you a deeper understanding of the subject at postgraduate level.

Universities now use specialised software (for example, The Open University uses Turnitin and CopyCatch) that helps them detect when an assignment contains information that has been copied from somewhere else without acknowledgement. You can avoid plagiarism by keeping track of the information you find, acknowledging it in your writing using appropriate citation and accurate referencing (see Session 5), developing note-taking skills and by writing using your own words. We will take a brief look at these latter skills shortly. First, you should check that you are aware of what constitutes plagiarism.

4.1 What does plagiarism look like?

Plagiarism may range from accidental to intentional. Accidental plagiarism could occur through poor note-taking skills, for example by copying and pasting some useful material from a web page and forgetting to re-write it using your own words, or to add a citation and reference. Using 'paper mills', or paid-for essay sites, would be an example of intentional or deliberate plagiarism. There are some skills and techniques you can learn to ensure that you do not inadvertently commit plagiarism in your academic work. Activity 6 will allow you to check your understanding of plagiarism.

Activity 6 Understanding plagiarism

Allow approximately 10 minutes

Which of the following would you consider to constitute plagiarism, and why? (You'll need to uncheck all of the boxes to make the 'reveal answer' function work.)

- ☐ A. Copying an assignment question from your course materials, putting it on an online forum and then using a suggested answer in your own work.
- ☐ B. Copying and pasting text from an article or a web page without acknowledgement.
- ☐ C. Putting a paragraph in your own words, with changes to the language and order of the ideas.
- ☐ D. Copying a paragraph from an article and changing a few words.
- ☐ E. Copying a few sentences of an original article and putting them in a different order.
- ☐ F. Using a diagram from a textbook or journal article, acknowledging the source in the legend and including the reference in the bibliography.
- ☐ G. Copying a few sentences and phrases from different sources and changing some words.
- ☐ H. Cutting and pasting a sentence and placing it in quotation marks with a citation.

Discussion

F and **H** would not be considered to be 'plagiarism', as the sources have been cited and material used appropriately. The others, however, constitute plagiarism to varying extents, some more intentional than others. These are explained in more detail here:

- A. Yes, this is plagiarism, and also a breach of copyright in publishing course content elsewhere without permission.
- B. Yes, this is plagiarism. It is possible to inadvertently forget to note the source of information at the time of writing, or to forget to acknowledge sources when writing. Unintentional plagiarism can be avoided by developing good academic practice and appropriate reference management and note-taking skills.
- C. Yes, although this may not be intentional plagiarism as an attempt has been made to put the work into your own words, it still needs a citation and reference as the ideas belong to someone else.
- D. Yes, this is plagiarism, and an example of 'poor paraphrasing'. There is no acknowledgement of the original author.
- E. Yes, this would be another example of 'poor paraphrasing', again without acknowledgement of the original source, and considered as plagiarism.
- F. No, this is not plagiarism as the source has been acknowledged (cited), and appropriately referenced, but you should still ensure that its use (e.g. in your assignment) is covered by 'fair dealing' exception and does not infringe copyright.
- G. Yes, this is an example of plagiarism. Although you are encouraged to draw on a number of sources, these should always be acknowledged properly.
- H. No, this is not plagiarism as the source has been cited appropriately using quotation marks. However, you should avoid relying on use of extensive quotes.

4.2 Developing your academic writing skills

Writing in your own words and applying good academic practice is not simply about showing others the depth of your understanding and current skills. It is also about helping you to make sense of what you are studying; in other words, 'internalising' what you are reading and learning by putting it into context and into practice. It will allow you to develop confidence in using ideas and examples.

4.2.1 Note-taking

Develop good habits by making notes in your own words. This will also help your understanding. Make sure that you take a record of the source of the ideas or information you have found (including the web address if working with online information). If copying directly from an online source into your notes, you could use highlighting to remind you that these are not your own words and need to be rewritten before use in your assignment. If there is a particular quote that you would like to use, make sure that you place this in quotation marks in your notes, and add the reference details (site, page, paragraph number, etc) to your notes as you will need these for the citation.

Here are some further helpful tips to consider:

- As you study and write your notes, do not copy chunks of text directly out of an article. Instead, always write your study notes in your own words and jot down the book or article your notes are drawn from.
- Check your writing against the articles you are using as sources. If the words you have written are too similar to the original, you should try to revise your own wording.
- Once you have taken notes from the original source, put the original article away and work only from your notes.
- All the information, quotes and examples that you use in your assignments must be properly referenced, so whether you quote an author directly or mention their work, you must include an in-text reference (giving the name of the author and date of publication) and add full publication details in a reference list at the end of your assignment.

4.2.2 Writing using your own words

You can express someone else's argument by reformulating the words that the original author wrote and citing the source. In doing so, you avoid plagiarising another person's work and you improve your understanding of what is being said. How exactly you do this depends on the subject and your own writing style, but these principles should help:

- **Do not use exactly the same vocabulary as used in the original.** However, there may be some essential words or technical phrases that you may not be able to avoid.
- **Change the structure of the argument.** This should come naturally as you will need to choose the appropriate elements of the original argument depending upon the aims of your own assignment.
- **Change the structure of the sentences.** If you need to reproduce someone's argument quite closely, you might find it difficult to make your version sufficiently different from theirs. If changing the structure of the sentences proves untenable,

then you could consider using a direct quote (by placing their argument in quotation marks, and citing the source – see Section 4.2.3).

- **Always select the aspect of the original argument that is relevant to your needs.** Your assignment title will lead you towards a particular objective. Not all aspects of the originally published work will be pertinent, so choose the elements that are and leave the rest. This means that rather than simply saying what your opinion is without explanation, you give evidence and reasons to indicate how you have come to that conclusion or opinion.

Academic writing often requires you to synthesise or explain other people's ideas and arguments. By putting these ideas into your own words you will not only avoid plagiarism, but also gain a deeper personal understanding of the subject matter.

4.2.3 Using quotations

If you find that an author has put forward an argument in a particularly cogent way, you may wish to quote their words directly. When you quote a person, put their words in quotation marks, e.g. Halliday (1978, p.1) claims that 'A child creates, first his child tongue, then his mother tongue, in interaction with that little coterie of people who constitute his meaning group'.

Quotations should be brief and are used sparingly for most academic purposes (including assignments). The idea is that you do most of the work of explaining the argument or position in your own words and use a quotation simply to back up what you have said, if it is essential to your discourse. There are some general rules that you should follow when using quotations.

- You must quote exactly, including any punctuation marks.
- Use single quotation marks to enclose the quoted words of a short quotation. Double quotation marks are used to mark off a quotation within a longer quoted passage, often a passage from a literary work.
- If the quote is longer than about three lines it should be indented, that is, put in its own paragraph and set in further from the margin, and the quotation marks omitted.
- Each quotation must have a reference, which should appear in brackets immediately afterwards, either naming the original source or using a number with a numbered reference at the end.
- If you add a word of your own in the middle of a quotation for clarity, place square brackets around it.
- If you leave out a word or phrase, then indicate what you have done by putting an ellipsis where the word or phrase was.
- Introduce a quotation with a phrase followed either by a comma or a colon.

Different disciplines do have slightly different conventions, so do check those that apply to your particular discipline or postgraduate course and make sure that you are consistent.

5 Communicating and collaborating online

Some postgraduate courses will require you to work in online spaces and to interact, for example, with other students (and your tutors) on forums, wikis and other online platforms. Your postgraduate studies may also involve structured group work. In this final section we explore how you can give feedback and collaborate with other students in an online space.

5.1 Giving constructive feedback

Communication and feedback are key aspects of any collaborative work. The purpose of feedback is to provide information concerning the current position in relation to the end goal. Giving and receiving feedback is a key skill in your working as well as academic life, and is something that you are likely to do every day. This becomes more complex in an online environment as (i) there are no visual clues or tone of voice to assist the understanding of the feedback given, and (ii) often the environment will be asynchronous, which can make exchanging feedback a longer process. You will sometimes see emoticons used online (in messages or on forums), such as the ones shown in the figure below, to provide some context in the form of visual feedback.



Figure 1 Six emoticons providing different visual feedback

Useful feedback is:

- **Goal-centred.** It gives information concerning how near the recipient is to reaching their goals.
- **Clear.** It is important that the recipient fully understands your feedback. If you use any subject-related terms, jargon or acronyms, make sure these are explained.
- **Specific and ‘actionable’.** If feedback is vague it can be difficult for the recipient of the feedback to understand what they have done well or how they can improve.
- **Timely.** Feedback should be given promptly so that the recipient can act upon it.
- **Constructive.** Feedback should focus on the solution to an issue, rather than the presence of a problem.
- **Polite and courteous.** Feedback should follow basic netiquette (see Box 8). Although it seldom happens, moderators can and will remove content that they decide is unsuitable.

Box 8 Communicating online – courtesy and confidentiality

Always treat others with the same courtesy and respect as you would in a face-to-face conversation. This is an academic community and you should feel free to be controversial and outspoken with your ideas, but never be offensive or hurtful. Do not write or share anything that is:

- defamatory, obscene, discriminatory, illegal, incites hatred or could damage the reputation of your academic institution
- confidential or infringes another person's privacy; for example, you should not post someone's contact details without their permission
- sent to you privately and not intended to be shared with others
- likely to make someone feel bullied or harassed
- malicious or potentially harmful to others.

If you quote from an external source, always credit the original author as you would in other academic writing. And finally, don't write in capital letters because it can look as though you are SHOUTING and is harder to read.

5.2 Assessing feedback

Not all feedback is equal. The following activity gives you practice in assessing the usefulness of feedback, with the aim of helping you understand what makes for good feedback.

Activity 7 Assessing feedback

Allow approximately 10 minutes

Imagine you are designing a software system to manage annual leave for a large company. You have been given the following feedback on its design from five different individuals:

- A. I like your design, it clearly took you a lot of time.
- B. I really like this. There are some really nice aspects. You seem to have addressed in your software design all the requirements. I would just like to say that maybe you could try thinking about how easy the system is to modify.
- C. I don't like this design. You haven't spent enough time on it.
- D. Your design does not allow for adding TOIL.
- E. In your design you have allowed for adding new leave but have not considered how to input leave into the system retroactively (i.e. where leave has already been taken but has not been put in the system).

For each of the above, think about how easy it would be to understand what needs to be changed in the annual leave booking system.

Discussion

- A. This is not specific enough to be useful. The feedback would be more helpful if it said which aspects of the system were 'liked'.
- B. It is not clear here what needs to be done, as the 'actionable' part of this feedback is hidden in compliments. If you are new to writing feedback you may be tempted to do this, to make sure that you do not cause offence. However, it makes the feedback difficult to act upon.
- C. This statement is not at all helpful. Even if the statement is true, it is not necessary to make it personal.

- D. This feedback is unintelligible if you are not familiar with the acronym for 'time off in lieu' (TOIL). Acronyms can be used in feedback, but make sure they are explained.
- E. This feedback is clear and specific. It is clear that the new annual leave system needs to have some additional functionality so that leave can be booked after the leave has been taken.

The first three pieces of the feedback given here were unhelpful as these did not suggest ways to improve the system. It can be a frustrating experience being given feedback that you are unable to act upon.

5.3 Receiving feedback

Listening to and understanding feedback is important as it allows you to build upon your strengths and identify areas that could be improved. Remember that feedback should never be seen as a personal criticism. The following offers a useful guide to receiving feedback.

- Ask for clarity if needed. Giving clear feedback is a skill that is not possessed by all. If you have received feedback that you can't act upon, you can ask for more detail.
- Accept positive feedback. You would not want to remove an aspect of your design that was seen as good.
- Evaluate the feedback you receive against your end goal. It *may* be the case that the feedback you receive is not relevant. But if you decide to disregard the feedback, make sure you have a clear rationale for this.
- Don't take 'negative' feedback as a personal criticism. It is helpful that someone has taken the time to evaluate your work and suggested areas for improvement.

5.4 Acting on feedback

The first step to improving your work is by asking for feedback, and it is worth thinking about how you do this. Simply requesting general feedback may not elicit many responses, so specifying which aspects you would like the feedback to focus on would be helpful to those you are requesting feedback from. Take Activity 7, for example. You could have started by asking: 'I would like your feedback on this annual leave booking system. I am particularly interested in usability. Do you think the system is as easy to use as possible? Any other feedback is gratefully received.' This is likely to elicit more responses than 'I would like your feedback.' Your next step would be to act upon the feedback you have received.

Activity 8 Acting on feedback

Allow approximately 10 minutes

You are developing a software system to manage annual leave for a large company. You have requested feedback from a selection of employees who will be using the

system. You are now at the end of an iteration, and have received the following comments:

1. Have you thought of using the company's colour scheme?
2. I like the overall feel of what I can see so far.
3. It would be helpful to have an option to print out the leave calendar.
4. The leave system is difficult to use.
5. The leave year for the company runs with the financial year, i.e. from 1 April to 31 March, but the calendar in the leave system defaults to showing a single calendar year (starting on 1 January). It would make sense if the calendar view matched the leave year for the company.

For each piece of feedback consider what you would do to change your design.

Discussion

1. It is likely that you would design the system using the company's colour scheme. If you are unsure about giving critical feedback, forming it as a question can be an easy way to provide a new perspective in a neutral manner.
2. This does not give you any specific advice on how to improve the leave system. You could ask for clarification about which aspects are 'liked' about the design of the system.
3. It is likely that you would add a printing facility to the leave system.
4. This may be true, but (as with the second piece of feedback above) you would need to request more information before you could make any improvements to the system.
5. It is likely that you would develop the next iteration in the way specified by the feedback. This feedback is ideal as it is clear and specific.

5.5 Dealing with conflicting feedback

You may occasionally encounter feedback in your online exchanges that is conflicting. The methods for dealing with this are similar to disagreements in face-to-face situations. Try to reach consensus by:

- asking each individual to expand their arguments to include why they think as they do
- remembering that basic netiquette is important in online group discussions – be open but courteous (no comments should be personal or offensive)
- arranging to be online at the same time, if possible – this can assist group discussions, which would then take place in 'real time'
- agreeing to disagree (if there is still no agreement).

When you receive conflicting feedback, choosing which feedback to act upon can be difficult.

- Make sure you evaluate each piece of feedback against your original goals. This should make it clearer which piece of feedback to follow.

- Think about whether enough detail has been given in each piece of feedback. If lack of detail is causing the issue you can always request more. You may even wish to quote the conflicting feedback in your request.
- Think about what you would change based on each piece of feedback. Which outcome do you think works best?

Critical feedback should be constructive, thus making it possible to act upon the feedback. When communicating online it is important to follow basic netiquette. Giving effective critical feedback online is a skill that is highly valued in academia and the workplace. Using feedback will help you to improve your work, for your studies and your employment.

5.6 Engaging in collaborative group work online

Working in a group is an activity which some people really enjoy, and others find difficult. Working online adds another dimension to this.

Activity 9 Some advantages and disadvantages of online collaborative group work

Allow approximately 10 minutes

Think about some of the advantages and disadvantages of working in an online group in an asynchronous learning environment. What do you think these might be? Note these down, and then reflect on the discussion that follows.

Provide your answer...

Discussion

If you already have some experience with online group work, you may have picked up a few of the points listed below. Even so, it's still worth taking a look at these and reflecting on them further. We'll be exploring some of the issues shortly.

Advantages

- Convenience: you are able to participate wherever you are.
- Potential to be more equitable: some people will prefer the privacy of the online environment.
- Allows for a considered response: you are not put on the spot to give a reply, you can take your time, and you can be more reflective about your posts.
- There will be an instant record of the discussion, so there is no need to take notes.

Disadvantages

- Unless you are using video conferencing software, you are unable to use verbal or physical flags like body language and facial expressions.
- There will not be an immediate response.
- Non-participation by some people.
- Confusing threads: people starting new topics, not making themselves clear, or multiple points in one post.

- Techniques that work face-to-face often do not work online (e.g. humour or irony), so how you phrase your response is very important.

Let's explore issues that may arise around participation, asking difficult questions, dealing with different views and approaches, and organising and managing discussion threads on forums.

5.6.1 Participation

An online group will include a range of personalities. Some may not be people you would choose to communicate with elsewhere. However, this is a situation you will come across throughout your academic and professional working life. It is something you will need to learn to deal with, whether you are facilitating a group or participating. Think about how you might be able to encourage a group to communicate effectively. In particular, how would you encourage quiet or reluctant people to join in an online discussion?

- Reluctant members may respond to a personal invitation to join in.
- Non-posting members may be reading the posts others have left. They may respond to an invitational post for 'previously read-only' participants.
- You may not be able to get everyone to join in. Understanding this at the outset and openly acknowledging this to the group may help.
- Encouraging responses to be posted within 24 hours can improve the flow of the conversation (research by Hew et al. (2010) shows that responses made within 24 hours of a posting are likely to get more additional replies, compared to responses made a couple of days later).

5.6.2 Asking difficult questions

How do you ask difficult questions in order to solicit information, without annoying or upsetting others?

- Openly acknowledging any difficulties or confusion may encourage others to open up.
- Ask open questions to unpick the understanding of other participants. This may expand the knowledge of the group as a whole.
- Short messages are likely to receive more responses than long ones.
- If you are unsure about the meaning of a posting, ask a short question to clarify. For instance: 'I'm not sure I understand what you mean. Could you expand on this?'
- Using emoticons like smiley faces may help to lift the mood, but they should also be used with caution, as it is also easy to misunderstand or misinterpret these in an online space.

5.6.3 Dealing with different views and approaches

How do you deal with differing opinions?

- You will never agree with everyone. Differences of opinion can be helpful and are encouraged. However, you will need to think about whether a consensus could be reached, or if it is acceptable to agree to disagree.
- Acknowledge any uncertainties about the point being made. This will help to develop a better understanding for you and the group.
- Show appreciation and consider other people's viewpoints. You can do this with a short appreciative response, followed by time to reflect on what has been written. This will help you to assess whether their opinion holds any sway for you.
- If you are acting as the facilitator, encourage justification for viewpoints that differ from yours. Taking time to reflect on what has been said may help you to frame a better response.
- You may need to agree some 'ground rules', depending on the nature of the work. Do you actually need a consensus? If so, does the majority rule, or would it be acceptable to disagree, and give different points of view?

5.6.4 Managing forum discussion threads

One of the most difficult things to do in any group work is to keep the group focused and on track. In face-to-face settings, stronger voices may try to make their opinion heard, and the conversation could go off at a tangent. The same can also happen in online spaces. If you are facilitating a group activity, you need to manage the threads in a way that will succeed in maintaining focus. You may be more successful in engaging participants if you agree some 'ground rules' as part of your strategy for managing discussion topics. At the beginning of the task, agree how threads will be managed. This will also make summarising the task or group activity much easier.

Activity 10 Managing forum discussion threads

Allow approximately 10 minutes

In order to keep your task focused, match up the options for how you might manage conversations. Using the following two lists, match each numbered item (solution) with the correct letter (scenario).

3. Agree on one point or topic per thread, and encourage people to comment in the appropriate thread.
4. Encourage one thread per discussion point, and set a limit to the number of threads.
2. Set priorities at the outset. Decide whether the majority will rule, or whether it would be better to gather agreements and disagreements in different threads.
1. Start off your forum with threads to begin discussions on different topics.

Match each of the items above to an item below.

- A. In one thread there are so many points that it is difficult to keep track of the discussion. Comments are starting to go off at a tangent.
- B. There are a large number of threads. They are becoming fragmented and it is making it difficult to pull the relevant points together in one place.
- C. There are so many differing points of view, and the group cannot reach a consensus.
- D. You need to organise discussion by topic.

Discussion

Managing comments may sometimes prove to be difficult. If you are facilitating a group activity, you may need to make some decisions and remind the group to keep on track with the agreed rules. One way forward could be for the majority view to hold.

5.6.5 Summarising

Once the group activity is complete, you may be required to summarise the outcomes. Summarising is a very useful skill to learn. Try practising it when you are participating in forums for personal use. Here are a few practical points to consider when summarising online forum posts:

- The summary should represent all contributions, and not simply your own views.
- Try to correctly interpret the comments made (do not embellish the group's outcomes with your own thoughts).
- You should extract the key points made, and draw out conclusions.
- Short, concise points containing the key pieces of information will work better than an extended piece of writing.

In writing the summary, you will also need to have understood what parameters were agreed at the start of the discussion.

- Is it a summary of what everyone thought?
- Is it a summary with a decision to be made?
- What did you agree about making the decisions?

In this section we considered how group discussions could be managed online, explored some differences between online and face-to-face group discussions, recognised some of the difficulties of managing online group discussions and ways of overcoming them, and reflected on how to summarise online group discussions. There is no simple 'magic formula' for online group activities, but we hope that the guidance provided here will help to improve your own participation and practice, and benefit you in your postgraduate studies.

6 Summary and reflection

The activity below encourages you to reflect further on the session. Take some time to go through this, before moving on.

Activity 11 Reflecting on Session 6

Allow approximately 20 minutes

- Based on what you have learned in Session 5, either create a **mind map** or write a **reflective journal entry** on ONE of the following topics: 'Using social media tools for research' or 'How to avoid plagiarism' or 'Communicating and collaborating online'.
- Use your mind map to reflect on the topic and identify any areas that you are unsure of, or think you should develop further.

Take a look at the digital and information literacy skills checklist that you completed in Session 5, and assess your level of confidence in the following areas: (1) understanding and engaging in digital practice, (2) finding information, (3) using information, and (4) creating information. Now go back to your academic and professional skills checklist from Session 1 and look at how you assessed your ability in the 'academic and information literacy' domains. If you think that you are now at a higher level of understanding than your initial estimate, then mark this down on the form.

7 This session's quiz

The end-of-session quiz gives you the opportunity to check your understanding and progress. It consists of three questions and will help you to prepare for the longer end-of-course badge quiz.

[Session 6 practice quiz](#)

Open the quiz in a new tab or window (by holding ctrl [or cmd on a Mac] when you click the link).

8 Closing remarks

This brings Session 6 to a close.

In the next session, we focus on reflective writing, applying reflective practice within professional contexts, and consider some examples of how critical and reflective thinking may be applied in different academic and professional contexts.

You can now go to [Session 7](#).

Session 7: Reflective writing, reflective practice and discipline perspectives

Introduction

Welcome to Session 7. In this session we look at some examples where reflective practice is applied in academic and professional settings. We discuss how models and frameworks (for example, Gibbs' model which was introduced in Session 2) can be applied to facilitate reflective practice, provide some tips that should help with your reflective writing, and consider some discipline-specific perspectives, with examples of how reflective and critical thinking skills can be applied within different academic and professional contexts.

Begin the session by listening to the audio recording.

Audio content is not available in this format.



[Recap and overview of Sessions 7 and 8](#)

By the end of this session you should be able to:

- use reflective writing and apply reflective practice within professional contexts
- understand how critical and reflective thinking may be applied in different academic and professional contexts.

1 Reflective practice

Let's begin by looking at what is meant by reflective practice and how it can be applied in academic and professional settings.

Activity 1 What does 'reflective practice' mean to you?

Allow approximately 5 minutes

Jot down a couple of things that come to mind when you consider the term 'reflective practice' – what does this mean to you? List an activity that you have undertaken in the last month or so that you believe required reflective practice.

Provide your answer...

Discussion

You may have arrived at an interpretation or a definition for this term. You will revisit your definition later on in this session, but first let's explore this concept a little further.

Taking the time to consider how other people's experiences and culture influence their behaviour or responses under different circumstances can open us up to a greater understanding of others, and ultimately of ourselves. Reflecting on different perspectives can help us make better sense of a situation through considering differing viewpoints, and how those relate to our own work and life experiences. At Master's level we do this by exploring available literature (published work) and interrogating the ideas presented not only in a 'critical' sense, but also by comparing those ideas, analyses and conclusions with our own experiences and interpretations.

By applying this process you will obtain an appreciation of differing perspectives, exploring how discourse, context, culture and other factors have shaped the views of people researching and writing about an area, as well as the extent to which these conditions affect the validity of the ideas they have presented. You can compare these perspectives with your own experience and ask yourself: 'To what extent do these apply to what I have experienced through a project, activity or a series of tasks?'

1.1 What is 'reflective practice'?

'Reflective practice' is a term that derives from the work of Dewey and Schön. Cast your mind back to Session 2 where we considered 'reflection-in-action' and 'reflection-on-action' – both are important facets of reflective practice. Dewey (1910, p. 6) wrote that reflective practice refers to 'the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it'. Dewey went on to say that being reflective 'enables us to direct our actions with foresight ... It enables us to know what we are about when we act'. Reflective practice is widely considered to be an important activity for professional development. We saw from Session 2 that practising reflection requires you to have a questioning approach. You consider why things are as they are, and how they might be, learning from your own experience and that of others, to effect change (e.g. focusing on future outcomes and actions).

Reflective practice can include any or all of the following:

- practice-based learning (reflection integral to specific practice-based vocations, for example in nursing and teaching)
- action research, action learning (learning by doing) and exploratory practice
- problem and enquiry-based learning approaches
- peer-based learning (peer feedback and review)

- reflecting on the study experience.

Reflective practice is frequently used in a number of vocational settings such as nursing, health and social care, and teaching, and its value is increasingly recognised in other areas, including business and management. It is a process where the professional (the 'reflective practitioner') stops to think about their practice, consciously analyses their decision-making, draws on theory and evidence, and relates this to what they do in practice. A reflective practitioner considers how a particular issue relates to their own practical experience – does it support, challenge or undermine their own practice?

Reflective practice:

- anchors theory in meaningful, concrete experience
- gives recognition to learning gained in non-academic contexts
- provides a bridge between practical experience and academic study
- helps develop understanding of difficult work situations, improving professional practice

(Cottrell, 2011)

Teaching, nursing and social work have specific requirements for practice-based learning. While there is some variability in assessment practices, practice-based learning (learning specifically designed to relate to professional practice standards) assures quality and best practice, and can form a significant component of the pre-qualification programmes in these professions. Standards and frameworks are defined by professional regulatory bodies, including the UK Quality Assurance Agency (QAA).

2 Applying reflective frameworks for professional development

Models and frameworks, for example, Gibbs' (1988) model, are frequently applied to facilitate reflective practice. The same key reflective questions that were introduced in Session 2 can be applied to professional practice. At its most basic level, a framework may consist of only three phases (see Figure 1), or it can be based on extended models, for example Gibbs' (1988) model for reviewing practice and critical incidents (see Table 1). The examples below are only provided as a guide to help you to begin to reflect and learn from events that may have significance to you. The questions act as initial prompts only, to help you to identify and develop options.

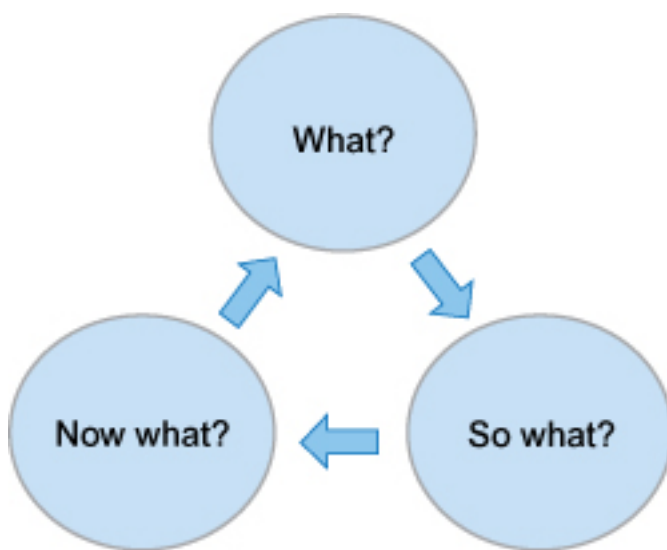


Figure 1 A reflective framework for professional development and professional practice

Table 1 A reflective framework for professional development and professional practice

Phase	Description	What happened?
1		What are you going to reflect on? Provide a description of the event.
Phase 2	Feelings	What were you thinking and feeling? What were your reactions and emotional responses at the time?
Phase 3	Evaluation	What was good and bad about the experience? Make value judgements – you can be subjective (your evaluation).
Phase 4	Analysis	What sense can you make of the situation? You can use additional source materials and your work experience here.
Phase 5	Conclusion	What else could you have done? What can you conclude more generally from the experience and from your evaluation and analysis? What can you conclude more specifically about your own personal response, situation or ways of working?

Phase	Action Plan	If it arose again, what would you do?
6		<p>What will you do differently in the future, based on this learning event?</p> <p>What is your plan of action now? What steps are you going to take on the basis of what you have learned?</p>

(Based on Gibbs' 1988 model)

By applying this systematic method of evaluating, analysing, problem-solving, identifying patterns and creating meaning you will not only reach a higher level of learning, but you will also be able to identify your own learning needs, improve your professional development, and make better professional decisions and judgement calls (meeting the requirements of each situation).

3 Reflective writing

In the previous sections we introduced a model and framework to help you structure your reflective thinking and reflective learning. Developing your reflective writing skills will help to ensure that your reflection leads to effective learning.

Reflective writing will help you to clarify, develop and demonstrate (to yourself as well as others) the connections between your prior knowledge and experience (theory and practice), your new learning, the rationale for your learning and future practice, and identify what you have yet to learn. Reflecting on your successes is a basis for successful practice, while reflecting on mistakes or problems can help you avoid repeating them or help to find an appropriate solution. This forms the basis of personal and professional development planning (continuing professional development or CPD). Do bear in mind that reflective writing is explorative in nature; it includes description (What? When? Who?), and analysis (How? Why? What if?), and can also result in more questions than answers. Figures 2 and 3 provide words and phrases that you may find useful in your reflective writing.

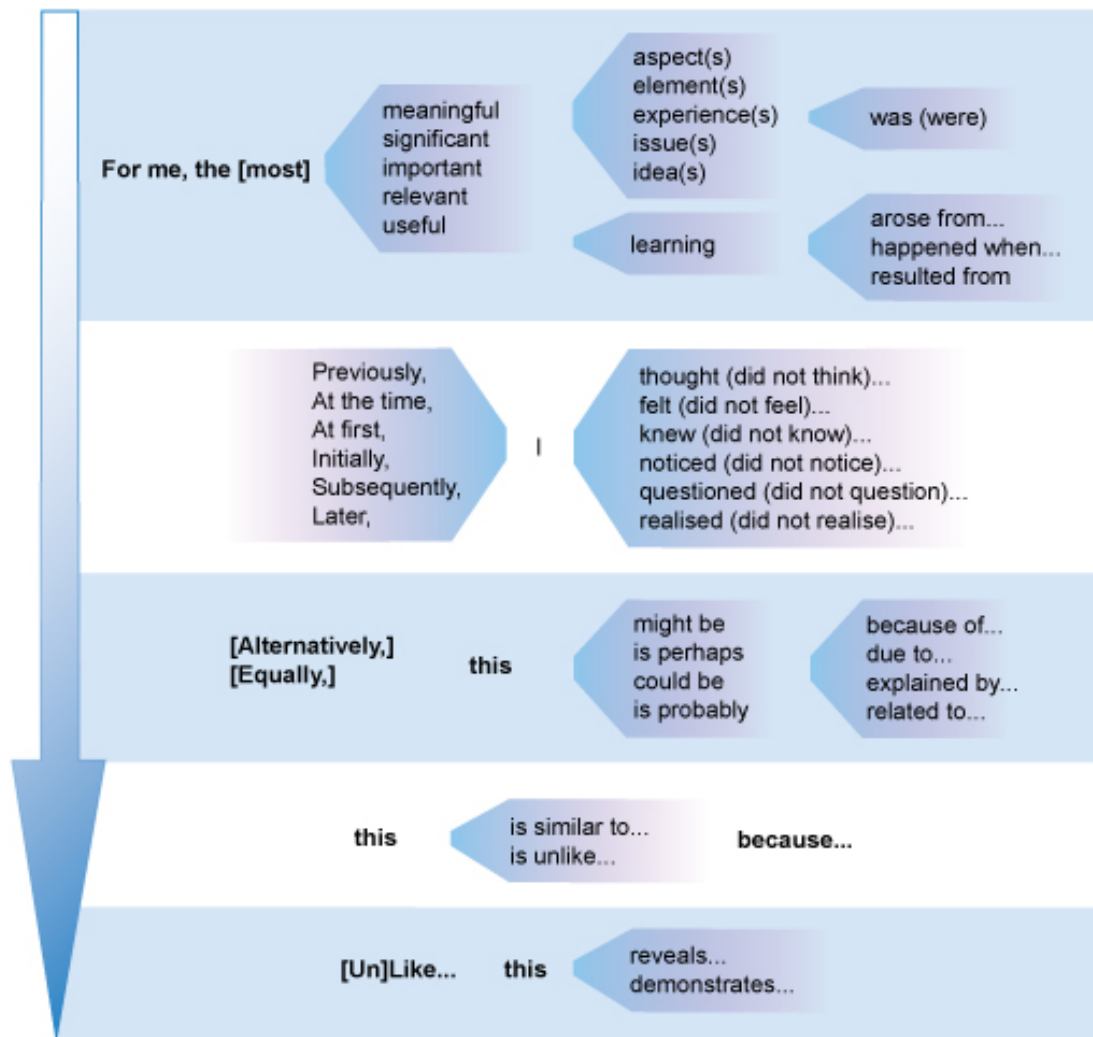


Figure 2 Reflective writing: interpretation and analysis (Syed, Scoular and Reaney, 2012)

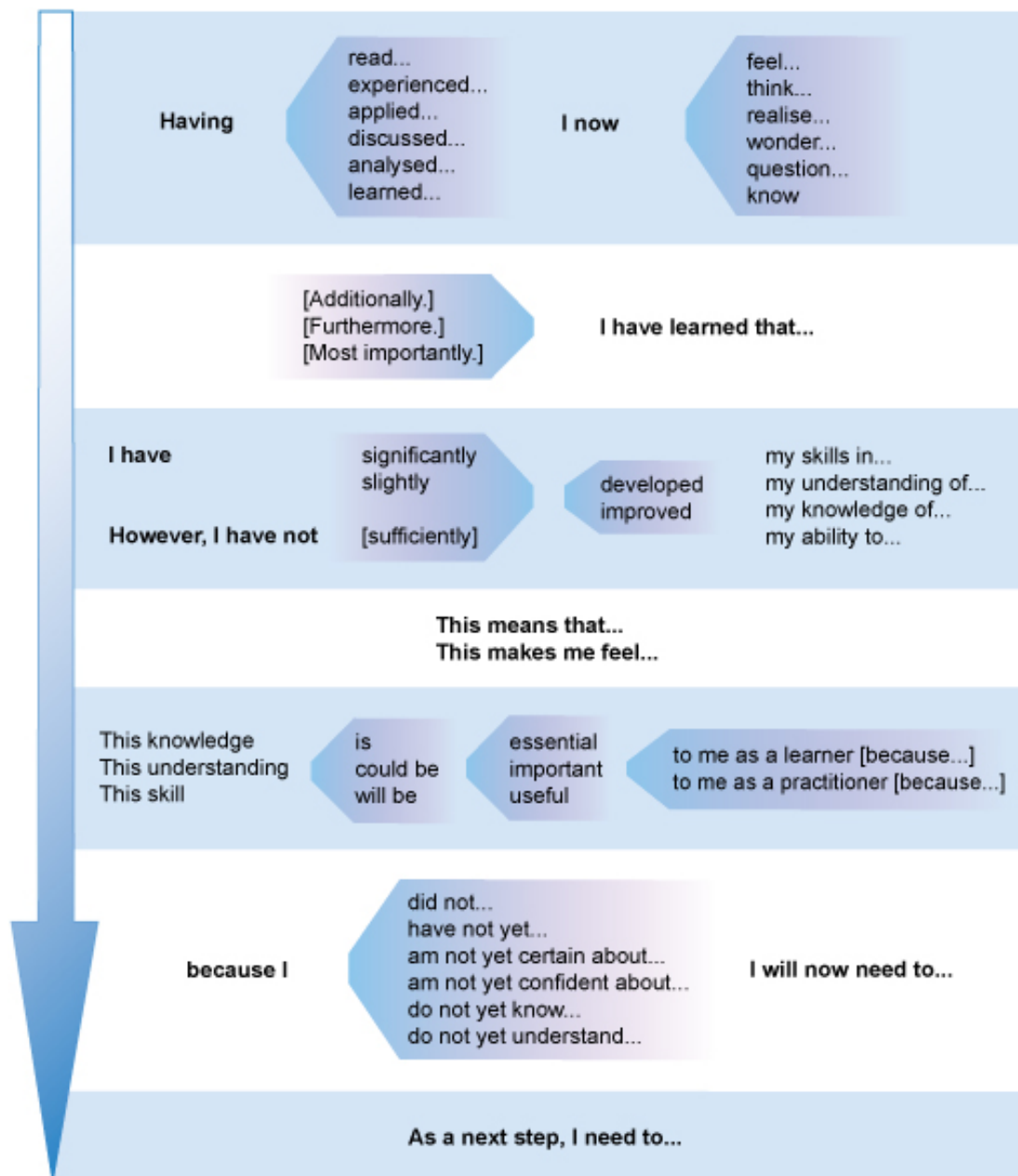


Figure 3 Reflective writing: outcome and synthesis (Syed, Scoular and Reaney, 2012)

3.1 Some important points to consider

Be selective in your writing: When engaging in reflective writing you are always encouraged to think about how your own experiences affect you and your work. You do this by selecting key aspects and/or moments that challenge your views about an aspect of your work/personal experience, or reinforce something you've read in the literature or in some policy documents, for example. It is very important to be selective, to adopt a critical stance, and be honest about your experiences. There is always an element of looking ahead, based on reflection of what has been experienced, so the outcomes resulting from your critical reflection need to be clear, and you should specify what you may do differently next time.

Use the right language and an appropriate writing style: In your assignments you will be required to demonstrate that you can express yourself in English at an appropriate standard and style, and produce well-structured, coherent and succinct text. If you are writing a reflective account on a project or series of activities, it is often appropriate to use the first person ('I'). However, different academic disciplines may demand different styles of writing from you, and it may be that in some instances you will be writing in the first person (e.g. 'I would argue...') whereas in others you will be writing in the third person (e.g. 'Smith (2016) argues that', or 'based on evidence from Smith (2016)...'). What is important is that it is clear to the reader when a claim is your view, and when you are expressing views and claims by others.

Self-reflection: You may find that a part of your assignment is devoted to self-reflection and your own view of how you've developed during your studies (similar to a learning journal). The language you use for self-reflection may be different from that in the academic part of the assignment. You are expected to write in the first person (e.g. 'I think that', 'My analysis is...') and you may well be encouraged to give your subjective feelings about your progress.

Use reflective writing in professional subject areas: Some assignments (for example, within health and social care) require students to use their professional judgement to make an informed subjective comment. You might be asked to provide your own reflections and opinions on a subject. However, even though you are being asked for your subjective response to the topic, you are still expected to provide evidence to support your position.

Box 1 Tips for successful reflective writing (adapted from Syed, Scoular and Reaney, 2012)

- use full sentences and complete paragraphs
- you can use personal pronouns ('I', 'my', 'we')
- avoid colloquial language
- keep your writing concise, presentable and legible
- be honest in your self-assessment
- ensure the content is clear and shows good observation in presenting the learning event and any associated issues.

Your reflective account should also:

- show depth and detail (a deeper approach to subject matter)
- be thorough, demonstrate self-awareness, and show a willingness to revise your ideas
- show evidence of critical and creative thinking
- represent different cognitive skills (synthesis, analysis, evaluation)
- include a statement of learning needs, linked to your personal development planning
- propose clear action(s) in response to the reflection
- note the questions that arise from the reflective process (and on which to reflect further).

3.2 Examples of good and poor critical reflection

The following table (adapted from Cottrell, 2011) describes good and poor practice in critical reflection. You should use this to help guide you in your writing.

Table 2 Good and poor practice in critical reflection

Aspect	Good critical reflection	Poor critical reflection
Experience	Draws on personal, group or workplace experience as a means of testing out theory or new learning; looking at experiences with a 'critical eye'.	Assumes 'experience' is an end in itself; that one's own experience is typical of others' without good evidence that this is so; that experience automatically equates to 'insight' without critical thought.
Personal Responsibility	Demonstrates integrity both in focusing on one's personal role, such as the assumptions brought to a situation or actions taken or omitted, and in taking responsibility for the consequences of these.	Finds ways of reflecting blame on to other people or the context itself for the way events unfolded; alternatively, personal responsibility is addressed in a superficial way, so that the relation of action and consequence is not considered in depth.
Focus	Selects a focus, such as a particular time period, set of events, specific kinds of incident or examples of interactions.	Is non-specific or covers too many dimensions, so the focus of the reflection is not clear.
Scale	The focus is broad enough to offer challenge and meaningful insights, but can be reasonably explored in the timescale and any word limits.	Is either too narrow to provide the insights needed or too broad to look at issues in any depth.
Direction	Begins to take direction as one starts to identify, and then focus on, selected themes for closer attention.	Wanders or jumps about rather than finds a direction.
Depth	Delves below the surface: it picks up on initial thoughts and insights, analysing these further with the aim of gaining deeper insights or broader applications.	Is superficial and does not demonstrate any interest in burrowing beneath the surface to understand more.
Challenge	Usually tackles a difficult area or enters difficult terrain, such as matters that are personally difficult, or issues that are complex and do not lend themselves to easy answers.	Tends to stay within 'safe territory', or deals with difficult issues in a superficial way, or does not seem to take the person forward in their understanding.
Theory	Draws on relevant theoretical standpoints, research, or established professional practice in ways that demonstrate how these have helped understanding; where relevant, it relates the particular incident to broader social and political issues.	Draws only on the person's own ideas, experiences and anecdotes, or makes superficial passing references to theory and research.

Criticality	Brings a searching critical eye to the focus of the reflection, to emerging insights, and to any theories or sources of information. This criticality is used to take the person forward in their understanding of the core emerging issues by, for example, challenging their own ideas and actions, or showing how their experience supports or challenges existing knowledge.	Is preoccupied mainly with describing situations, content or events. May include critical analysis but this does not seem to be used in a way that really develops an understanding of the core emerging issues.
Insight	The reflection takes the person forward in their understanding, such that they can make more sense of their situation, work or study, manage better within it, do things differently, apply understanding to new contexts etc.	The reflection gives little indication that the person has moved forward in their understanding of the context or issue, or self-knowledge.
End-points (extrapolated conclusions)	The process of reflection may take the person in many different directions. However, by the end, they have stood back, drawn out the key messages of what they have learnt and summarised these as conclusions or recommendations.	The reflection reads more as a description of a process or rambling free association. The lessons learned are not drawn out clearly as conclusions or recommendations.
Audience (if reflection is to be shared)	If this is to be used in academic, work or public contexts, the writing up of reflection demonstrates a sound understanding of ethical considerations and stylistic or academic conventions that may apply, and any issues of confidentiality will have been addressed appropriately.	The reflection is submitted or made public without all due care being taken to ensure that confidentiality and other data protection issues are addressed; no thought is given to how to make the reflection manageable for others to read.

(Adapted from Cottrell, 2011)

4 Applying critical and reflective thinking in academic and professional contexts: examples

This section will introduce you to examples of critical and reflective thinking within four broad discipline areas: health and social care, business and management, education, and science. We would encourage you to read and engage with the activities in an area that aligns more closely with your own interest, plus at least one other discipline area, to gain a broader appreciation within the limited time allocated to this session.

Note: The four discipline areas are provided for your reference. As a guide, two of these ('Business and management perspective' and 'Science perspective') delve further into the process of critical evaluation and reflection within their respective fields, whereas the remaining two areas ('Health and social care perspective' and 'Education perspective') focus more prominently on critical reflective practice.

You are welcome to explore all four areas, if you can devote additional time for doing this beyond that allocated for this session.

[4.1 Health and social care perspective](#)

[4.2 Business and management perspective](#)

[4.3 Education perspective](#)

[4.4 Science perspective](#)

Box 2 A cautionary note concerning the notion of 'objectivity' in critical thinking – perspectives from different disciplines

We have until now broadly considered critical thinking as an 'objective' process. In fact, the definition for critical thinking provided by the *Oxford English Dictionary* reaffirms the notion that critical thinking is an 'objective analysis and evaluation of an issue in order to form a judgement'.

According to this view, the aim of critical thinking would be to 'try to maintain as objective a position as possible'. The notion of objectivity in critical thinking does, however, vary amongst disciplines. For example, it has been argued that the process is quite different for the natural (physical) sciences to how it could be conceived in the social sciences and in business and management. Critical theorists in the social sciences and in business schools have claimed that the presence of the researcher (studying others, managing and organising) can, in fact, affect what is done. Physical scientists, on the other hand, when writing experiments may, with reasonable justification, claim that what they have written is the product of detached observation that can be replicated elsewhere, whereas in the social sciences this claim would be more disputed (with those who are working from critical perspectives saying that what has been written up could be based on findings that are open to multiple different interpretations, depending on the preference or standpoint of the researcher(s)).

Recall that you were introduced to aspects of this debate in Session 3. You should therefore continue to be aware that differences in ideas and practices can occur between the

disciplines, and how these may affect outcomes (i.e. impact upon how knowledge and information are constructed, examined and, most crucially, used in practice).

5 Summary and reflection

You can use this visual summary to review the theme of reflective learning and reflective practice (topics that were discussed in this session and in Session 2).

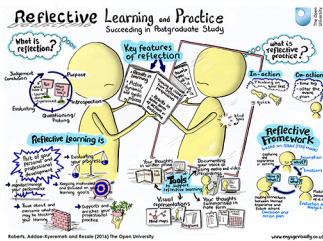


Figure 4 Reflective learning and practice

We have provided you with a [larger version of this image in PDF format](#).

The last activity encourages you to reflect further on a topic of your choice. Take some time to go through this, before moving on.

Activity 2 Reflecting on Session 7

Allow approximately 20 minutes

Based on what you have learned in Session 7, either create a **mind map** or write a **reflective journal entry** on ONE of the following topics:

- What is reflective practice?
- Why reflective practice is important for academic and professional development.
- Good and bad critical reflection.
- Some of the key similarities and differences between approaches used by different disciplines.

Use your mind map or learning journal to reflect on your chosen topic and identify any areas that you are unsure of, or think you should explore further.

Now go back to your academic and professional skills checklist (from Session 1) and look at how you assessed your ability in the 'reflective thinking and writing' and the 'critical and analytical thinking' domains. If you think that you are now at a higher level of understanding than your initial estimate, then mark this down on the form.

6 This session's quiz

The end-of-session quiz gives you the opportunity to check your understanding and progress. It consists of three questions and will help you to prepare for the longer end-of-course badge quiz.

[Session 7 practice quiz](#)

Open the quiz in a new tab or window (by holding ctrl [or cmd on a Mac] when you click the link).

7 Closing remarks

This brings Session 7 to a close. We have suggested some [further reading and other resources](#) that you may find useful. You might like to take a look at some of these after completing this course.

In the final session, we consider some common barriers to critical thinking and provide you with opportunities to apply your critical thinking skills through examples that will help you to compare and evaluate arguments and perspectives on particular issues.

You can now go to [Session 8](#).

Session 8: Applying critical thinking skills

Introduction

Welcome to Session 8. In this final session we will first consider some common barriers to critical thinking, and then take you through an example extract and three scenarios that will help you to apply your own critical and analytical thinking skills, building on the knowledge you have gained over the course.

By the end of this session you should be able to:

- understand how to compare and evaluate arguments and perspectives on a particular issue.

1 Barriers to critical thinking

First, let's briefly examine some barriers to critical thinking.

Take another look at the visual summary below on critical and analytical thinking, which was introduced at the end of Session 3. Note the warning sign next to the 'black pit' to the lower right of this figure.

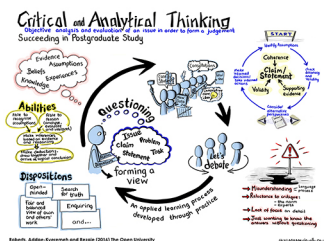


Figure 1A visual summary of critical and analytical thinking

We have provided you with a [larger version of this image in PDF format](#).

What are the common pitfalls or barriers to thinking critically and analytically? Some of these were highlighted in the visual summary, and include:

- **Misunderstanding.** This can arise due to language or cultural differences, a lack of awareness of the 'processes' involved, or a misunderstanding that critical thinking means making 'negative' comments (as discussed in Sessions 3 and 4).

- **Reluctance to critique** the 'norm' or experts in a field and consider alternative views (feeling out of your 'comfort zone' or fearful of being wrong).
- **Lack of detailed knowledge.** Superficial knowledge (not having read deeply enough around the subject).
- **Wanting to know the answers without having to ask questions.**

Why do you think being aware of these potential pitfalls is important?

As a critical and reflective thinker, you will need to be aware of the barriers, acknowledge the challenges they may present, and overcome these as best you can. This starts with an understanding of expectations. Some students feel anxious about questioning the work of experts. Critical thinking does not mean that you are challenging someone's work or telling them that they are wrong, but encourages a deeper understanding, a consideration of alternative views, and engagement in thought, discourse or research that informs your independent judgement. At postgraduate level you will also need to read widely around a subject in order to engage effectively with critical and analytical thinking, and to ask questions: there are no 'right' or 'wrong' answers, only supported arguments. This is at the heart of postgraduate study.

Critical thinking encourages you to be constructive, by considering the strengths and weaknesses of a claim and differing sides to an argument. It helps you to clarify points, encourages deeper thought, and allows you to determine whether information that you come across is accurate and reliable. This helps you to form your own judgement, and drives research forward.

People can find it difficult to think critically, irrespective of their education or intellectual ability. The key to understanding critical thinking is not only knowing and making sure that you understand the process, but also being able to put this into practice by applying your knowledge.

Critical and reflective thinking are complex and lifelong skills that you continue to develop as part of your personal and professional growth. In your everyday life, you may also come across those who do not exercise critical thinking, and this might impact on decisions that affect you. It is important to recognise this, and to use critical and reflective thinking to ensure that your own view is informed by reasoned judgement, supported by evidence.

Take another look at the visual summary. You will see two aspects to critical thinking: one focusing on the disposition of the person engaged in critical and reflective thinking, and the other concerning their abilities. Let's focus here on dispositions. At a personal level, barriers to critical thinking can arise through:

- an over-reliance on feelings or emotions
- self-centred or societal/cultural-centred thinking (conformism, dogma and peer-pressure)
- unconscious bias, or selective perception
- an inability to be receptive to an idea or point of view that differs from your own (close-mindedness)
- unwarranted assumptions or lack of relevant information
- fear of being wrong (anxious about being taken out of your 'comfort zone')
- poor communication skills or apathy
- lack of personal honesty.

Be aware that thinking critically is not simply adhering to a formula. For example, reflect on the following questions:

- How can you communicate with those who do not actively engage with critical thinking and are unwilling to engage in a meaningful dialogue?
- How would you react or respond when you experience a lack of critical thinking in the media, amongst your own family members, colleagues at work, or on your course?

2 Getting to grips with critical thinking

In this section, you will be considering a written extract taken from a published article, and listening to a conversation that evaluates the extract and some related information. You will then be presented with three separate statements using different examples of writing and will have to decide which of the examples presents a more convincing argument, and explain your reasons why.

Activity 1 Getting to grips with critical thinking

Allow approximately 60 minutes

The extract below is taken from the article by Chase, Sui and Blair (2008a), published in the *International Journal of Aquatic Research and Education*. First read this extract and then listen to the audio recording that follows.

Swimming, water jogging, and aqua aerobics are excellent aerobic activities that might provide health benefits to the general population, as well as patients with chronic disease such as heart failure (Schmid et al., 2007). Aquatic exercises might be preferred over other forms of aerobic activity for people who have arthritis, diabetes, disabilities, or excess weight (Lin, Davey, and Cochrane, 2004). Most studies on physical activity and health have included aerobic activities such as walking, jogging, and aerobics classes, but few such studies have included swimming as an exposure. It is important to understand how or if swimming and other types of physical activity are related and how they relate to health outcomes. Therefore, the goal of this study was to evaluate the characteristics of participants in the Aerobics Center Longitudinal Study (ACLS) and to compare the health habits and physiological characteristics of swimmers, runners, walkers, and sedentary women and men. Our principal purpose was to evaluate whether regular swimming is comparable to other aerobic activities in terms of beneficial health outcomes.

Audio content is not available in this format.



[Session 8 Activity 1 audio](#)

We have included the supporting information explored in the audio below, to review should you wish. (You can listen to the entire audio first and review the supporting information afterwards, or you can pause the audio at specific points, review the supporting information, and return to the recording again, if you prefer. Please choose whichever option suits you best.)

Supporting information

- In the opening sentence of their discussion (Chase, Sui and Blair 2008a, p. 158), the authors state:

‘The principal findings of this report are that all types of physical activity have similar health benefits compared with a sedentary lifestyle. Swimming and running had the same health benefits even though there were a few differences between swimmers and runners.’

- Towards the end of the discussion (p. 159), they state:
‘The principal strength of this study is the large population that we observed and the extensive database of the ACLS, which has been developed over more than 30 years.’
- At the end of the discussion (p. 159), they state:
‘The study also has limitations. Results must be generalised with caution because the population includes few members of minority groups and comes from relatively high socio-economic strata. Because this was a cross-sectional study, we cannot make causal inference from the results.’
- In their conclusion (p. 159), they state:
‘In conclusion, swimming might provide a healthful alternative to traditional modes of exercise... for the general population, as well as for patients suffering from chronic diseases... Our results show that swimming appears to have health benefits similar to those of running and generally was more beneficial than walking or a sedentary lifestyle.’
- The authors published a second article in 2008, which appeared in the next issue of the same journal (Chase, Sui and Blair, 2008b). In the introduction to their second article (p. 214) the authors referred to their previous study, stating that:
‘Swimming, water jogging, and aqua aerobics are lifetime physical activities for many people. We have previously shown that swimming provides health benefits comparable to those from walking and running.’ (Chase, Sui and Blair, 2008b)
- The acknowledgements section for both articles noted that the research ‘was supported by the National Swimming Pool Foundation and National Institutes of Health Grants’. No financial disclosures were declared.
- A search for both articles on Google Scholar (October 2016) indicated that their first publication had been cited 12 times, and their second a total of 17 times.
- Their first article had been cited by a systematic review and meta-analysis on the ‘Health benefits of different sport disciplines for adults...’, published by Oja et al. (2015) in the British Journal of Sports Medicine. The abstract makes it clear that the aim was ‘to assess the quality and strength of evidence for the health benefits of specific sports disciplines’. It goes on to state that moderately strong and conditional evidence supported the health benefits of running and football, but that ‘Evidence for health benefits of other sport disciplines was either inconclusive or tenuous. The evidence base for the health benefits of specific sports disciplines is generally compromised by weak study design and quality.’

If you wish to read further, you can access the full texts of the articles by Chase, Sui and Blair (open access), and the abstract of the article by Oja et al. (2015) via the links provided below:

- [‘Comparison of the health aspects of swimming with other types of physical activity and sedentary lifestyle habits’](#)

- ['Swimming and all-cause mortality risk compared with running, walking and sedentary habits in men'](#)
- ['Health benefits of different sport disciplines for adults: systematic review of observational and intervention studies with meta-analysis'](#)

Discussion

The following questions should prompt you to reflect further on this activity:

- Is the declaration that 'Swimming, water jogging, and aqua aerobics are excellent aerobic activities' an unsupported assertion in your view?
- In the Extract (introduction) they state that their participants were from the 'Aerobics Center Longitudinal Study (ACLS)' (spanning over three decades), but it emerges from reading their Discussion that the study they are actually reporting on is a cross-sectional study, and that the authors 'cannot make causal inference from the results' because of this. Have they been clear about communicating their study design and considering other limitations?
- Could the fact that the research was partly sponsored by the National Swimming Pool Association have influenced the way the findings have been communicated? Would this affect your own judgement in any way?

3 Showing evidence of your ability to think critically

Remember, critical thinking requires critical reading and critical writing skills. How you present and communicate your critical thinking, using appropriate language, avoiding generalising or unsubstantiated statements, are key skills at postgraduate level.

When reading critically, before delving into the detail, make sure you have a clear grasp of the basics first. Read the Conclusions, and the first and last passages of the Introduction, Discussion or Abstract of an article to get an overview of the arguments - we explored this in Activity 1. Look out for recommendations, critiques or challenges put forward by the author, and for evidence supporting their argument. Is it credible? Is it biased? Does it serve its purpose? Does it advance knowledge or understanding? Are there any flaws?

When writing critically, you must support all of your ideas with evidence, and explain (communicate) your reasoning clearly. To do this you will need to research and read widely around a topic (provide context), plan your argument and select relevant supporting evidence. Consider alternative perspectives, theories and evidence, develop your ideas, explore relationships and links, and question your own assumptions as much as those of other authors. Why is it that you agree or disagree with a particular view? Does the argument match with what you know about the subject already? Does it fit with what others have said? Is it relevant and useful to your purpose? How does it add value to previous work in the area? Use tentative language in academic writing (unless your assignment requires you to do otherwise), and make sure that you don't generalise from a single study.

3.1 What assessors will be looking for in your postgraduate assignments

Assessors and examiners will be looking for evidence that you:

- are not simply taking everything that you read (e.g. claims being made) as 'granted'
- are exerting independent thought and originality of thought in researching a particular subject (insight and thoughtful engagement with the subject)
- have read widely around the subject, display an in-depth knowledge and understanding of the issues (demonstrating scholarship)
- can demonstrate that you are able to distinguish and critically evaluate different types of information (data/theories/evidence/results) as appropriate to the field of study
- have analysed the key issues
- have evaluated arguments
- have used relevant resources (and a wide range of sources) to effectively support your own arguments or discussion (logical use of evidence)
- have considered alternative views, theories or evidence

- have identified potential gaps in knowledge, discussed limitations, and identified further lines of enquiry where appropriate
- present a logical, well-structured, clear, coherent and persuasive argument (and your writing is in line with academic conventions).

An assignment that is poorly structured, descriptive and superficial (showing limited depth of knowledge and understanding of issues or critical analysis) is quite a contrast to one that is coherent, logically presented, and shows an in-depth and critical understanding of the subject matter.

The expectation at postgraduate level is that you question, challenge and consider alternative views, as this demonstrates evidence of your independent inquiry into the subject matter. Depth of engagement is important, but you should make sure that you also retain focus, and remain on topic and within the scope of your assignment. If you feel particularly strongly about an issue, it does not mean that you should abandon your beliefs, but you need to be willing to critically evaluate and challenge your own deeply held beliefs and assumptions, acknowledge your emotions and understand how they can influence your argument. Letting emotions take the place of reasoning and evidence which could convince and persuade others can instead undermine an argument.

Box 1 Applying critical and analytical thinking

1. **Assess your source(s)**What is the source? (e.g. web, academic journal, newspaper etc.)
What are the strengths and limitations of this source?
2. **Identify bias**What is the purpose of the writing?
Does the writing reflect a personal or political viewpoint?
Who might disagree with the author?
3. **Evaluate the evidence**What evidence/examples does the author use?
How reliable or useful is the evidence?
Does it support the argument?
Is the evidence up-to-date?
4. **Consider the argument(s)**What is the main argument?
What statements/evidence in the article strengthen or weaken the argument?
Are there any assumptions being made?
Think about the viewpoint in relation to the bigger picture.
Do other authors share these views? Do their views differ?
What are the contrasting views?
5. **Draw your conclusions**Understand why authors have arrived at different conclusions.
Argue why one viewpoint is preferable to another.
All ideas and arguments must be supported by evidence.
Question your own assumptions and biases as well as those of the author.

3.2 Evidence of critical thinking in academic writing

You will now undertake a series of activities in which you will think about critical thinking in academic writing.

Activity 2 Anatomy of critical thinking: evidence of critical thinking in academic writing

Allow approximately 60 minutes

Consider the following three examples of academic writing. Each is a written response to the same question. Taking each in turn, consider the degree to which the example:

1. shows evidence of critical thinking and depth of engagement with the subject matter
2. presents a coherent and persuasive discourse
3. follows appropriate academic convention expected at postgraduate level.

Explain your reasoning (you may wish to refer back to Section 3.1).

Example 1

Learning through face-to-face versus online (threaded) discussions: which is better?

My personal view is that face-to-face discussions are better, but this may be because I prefer to discuss issues and learn through speaking rather than writing, so this depends on students' personal preferences. Face-to-face discussions are useful for immediate exchanges and are dynamic. Online discussions can afford greater time to reflect on topics (Meyer, 2003). Evidence does suggest that communicating online can improve learning to the same extent as face-to-face interaction. There are ways in which this can be improved further however, for example by directing learning to include problem-solving and integration of ideas, to develop higher-order thinking skills (Meyer, 2003).

References

Meyer, K.A. (2003) 'Face-to-face versus threaded discussions: the role of time and higher-order thinking', *Journal of Asynchronous Learning Network*, vol. 7, no. 3, pp. 55–65.

Example 2

Learning through face-to-face versus online (threaded) discussions: which is better?

Both are useful under different circumstances. Face-to-face interactions provide for 'immediate and energetic exchanges', whereas online discussions allow additional time to reflect on topics (Meyer, 2003). Their use depends on students' personal preferences (Dutton, Dutton and Perry, 2002). For example, those who are working full-time may prefer online (threaded) discussions, as these fit better with the time they have available to engage with learning (i.e. outside of normal working hours) (Dutton, Dutton and Perry, 2002). There is evidence to suggest that communicating

online can improve learning beyond face-to-face settings (Meyer, 2003; Edelstein and Edwards, 2002), but there is also further scope for developing directed learning through online discussions to include problem-solving, integration of ideas and develop higher-order thinking skills (Meyer, 2003).

References

- Dutton, J., Dutton, M. and Perry, J. (2002) 'How do online students differ from lecture students?' *Journal of Asynchronous Learning Network*, vol. 6, no. 1, pp. 1–20.
- Edelstein, S. and Edwards, J. (2002) 'If you build it, they will come: building learning communities through threaded discussions', *The Online Journal of Distance Learning Administration*, vol. 5, no. 1 [Online]. Available at <http://elearnmag.acm.org/archive.cfm?aid=566829> (Accessed 11 April 2017).
- Meyer, K. A. (2003) 'Face-to-face versus threaded discussions: the role of time and higher-order thinking', *Journal of Asynchronous Learning Network*, vol. 7, no. 3, pp. 55–65.

Example 3

Learning through face-to-face versus online (threaded) discussions: which is better?

There are advantages to holding discussions in either setting. Critics of online learning point to a perceived loss of 'immediacy' and dynamics ('energy') of learning typical of face-to-face interactions (Weinberger, 2002), but a study has found that using threaded discussions allowed students extra time to reflect on topics raised on their course, which they appreciated (Meyer, 2003). Another study found that the majority of online students (>80%) were employed and working on average 38 hours a week, whereas just over one half of those attending face-to-face sessions were in employment (working on average 20 hours per week) (Dutton, Dutton and Perry, 2002). Students generally find that one or the other format fits better with their lifestyle and with their preferred learning mode. Those who criticise learning through threaded discussions (e.g. Klemm, 2002) direct their criticism at pedagogic practices, rather than the online format itself. This highlights the need to develop frameworks for online discussions that will maximise interaction between students, course content and academic staff, to better facilitate learning within an online environment.

Spiceland and Hawkins (2002) consider interacting and communicating online to represent a form of 'active' learning. Edelstein and Edwards (2002) have proposed five categories for assessing student communication in online learning. These are:

1. promptness and initiative (timely and consistent engagement)
2. delivery (grammatical correctness of the post)
3. relevance (of the post to the current discussion)
4. expression (how well ideas are presented within the post)
5. contributions to the learning community (contributions to the group discussion).

Newman, Webb and Cochrane (1995) found that students were more likely to make important statements and connections between ideas through online discussions,

providing some evidence that threaded discussion can also help to improve critical thinking. Meyer (2003) showed that students can develop higher-order thinking skills and stay focused on tasks. Students also took care in preparing and posting their written responses (with very few grammatical, spelling or punctuation errors), which the author put down to 'the greater public nature of the medium... lest their peers see and judge them on their writing skills' (Meyer, 2003). While this latter assertion may well be speculative, the aforementioned studies do support the use of more directed learning through online discussions (e.g. problem-solving, integration of ideas and developing higher-order thinking skills).

References

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- Edelstein, S. and Edwards, J. (2002) 'If you build it, they will come: building learning communities through threaded discussions', *The Online Journal of Distance Learning Administration*, vol. 5, no. 1 [Online]. Available at <http://elearnmag.acm.org/archive.cfm?aid=566829> (Accessed 11 April 2017).
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- Weinberger, D. (2002) 'Small pieces loosely joined', Cambridge, MA, Perseus Publishing.

Discussion

The assignment brief required you to consider the degree to which each example:

1. shows evidence of critical thinking and depth of engagement with the subject matter
2. presents a coherent and persuasive discourse
3. follows appropriate academic convention expected at postgraduate level.

Firstly, it could be said that all three attempts followed academic convention. They demonstrate appropriate use of in-text citation, and have provided references (these are in defined format and consistent). In the third example, there is also an appropriate use of a quote, which is in context. Different disciplines may specify particular requirements, for example some would expect the page numbers to be provided, particularly when referring to a direct quote, and there were instances in all three examples where 'ibid' may have been used to save space and avoid duplication.

Let's examine the evidence of critical thinking, the depth of engagement with the subject matter, and the overall coherence and persuasiveness of the answer.

Example 1: poor attempt

In this example, the author has tried to be succinct and shows some evidence of independent thought on the question at hand. The author takes the position that both online and face-to-face discussions may have benefits, but the choice is mainly about personal preference. However, at postgraduate level, greater depth (beyond your opinion) is required. The statement that 'Evidence does suggest that communicating online can improve learning to the same extent as face-to-face interaction' is used as part of the argument, without stating where the evidence has come from (i.e. it is not supported). Being able to draw on empirical evidence to support an argument or standpoint is crucial at postgraduate level, so that is a missed opportunity. A strong argument has not been put forward for the author's personal preference either, as the response clearly acknowledges that both face-to-face discussions and online discussions are beneficial. The limited use of evidence, i.e. a reference to a single article (Meyer, 2003), indicates an over-reliance on a single source and suggests that the author has not read widely enough on the topic to make an informed judgement, hence going with personal preference, rather than basing arguments on evidence.

Example 2: intermediate attempt (needs more thought)

In Example 2, the author removes their personal view from the topic, and attempts to argue based on evidence by drawing on a study by Dutton et al. (2002) to highlight the importance of personal preference in the debate. The use of studies by Meyer (2003), and Edelstein and Edwards (2002), to develop the point about online communication demonstrate further reading around the topic, but does not actually add much value to the argument about merits of online over face-to-face discussions. Specifically, the author states that 'There is evidence to suggest that communicating online can improve learning beyond face-to-face settings', citing Meyer (2003), but has not gone into the nature of the evidence or explored this critically to add value to the argument. Overall, this is a better response compared to the answer in Example 1. It is a good starting point, demonstrating a wider reading and engagement with the subject matter, but there is clear scope to improve on this, and develop a persuasive and critical argument.

Example 3: good in parts (on the right track)

In the third example, the author clearly demonstrates wider reading on the subject matter (comparable to the previous two examples), and draws on evidence from several sources to support their reasoning in the answer. There is good evidence of critical thought, and contrasting views have been considered and are cited (although these could also have been explored in greater depth). However, the focus (coherence) and persuasiveness of the argument needs some thought. The second paragraph reads a lot like a synthesis (or descriptive notes). The argument should be more focused. It is clear from the evidence cited that lifestyle does affect preference for the mode of discussion (face-to-face versus online), so it would have been prudent to analyse this further, identifying and evaluating what other factors might influence choice. The question requires an analysis of the two learning modes (online versus face-to-face), so the line of arguments could, for instance, have included: 'work patterns influencing choice (e.g. part-time versus full-time employment, shift work etc.)', 'pedagogic influences (critical thinking etc.)', and 'technology', considering advantages and limitations for each mode, and identifying any gaps in knowledge that could impact on the overall judgement. The response is on the right path and should be developed further.

4 Summary and reflection

The activity below encourages you to reflect further on this session. Take some time to go through this, before moving on.

Activity 3 Reflecting on Session 8

Allow approximately 20 minutes

- Based on what you have learned in this session, either create a **mind map** or write a **reflective journal entry** on ONE of the following: 'Barriers to critical thinking' or 'How to demonstrate critical thinking in written assignments'.

Now go back to your academic and professional skills checklist (from Session 1) and assess your ability in all the domains. If you think that you are now at a higher level of understanding than your initial estimate, mark this down on the form. You can use this as a reference (for your further skills development) when you start your postgraduate studies.

5 This session's quiz

You can now proceed to complete your end-of-course badge quiz. This is similar to previous quizzes, but this time you will have to answer 15 questions. Remember, this quiz counts towards your badge. If you are not successful the first time, you can attempt the quiz again in 24 hours.

[Session 8 compulsory badge quiz](#)

Open the quiz in a new tab or window (by holding ctrl [or cmd on a Mac] when you click the link).

6 Closing remarks

This brings Session 8 and the course to an end. You should now be suitably well-informed and prepared for postgraduate study. We have suggested [further reading and other resources](#) that you might find useful.

We hope you have enjoyed studying with us, and wish you every success for the future.

Tell us what you think

Now you've come to the end of the course, we would appreciate a few minutes of your time to complete this short [end-of-course survey](#) (you may have already completed this survey at the end of Week 4). We'd like to find out a bit about your experience of studying the course and what you plan to do next. We will use this information to provide better online experiences for all our learners and to share our findings with others. Participation will be completely confidential and we will not pass on your details to others.

Where next?

If you've enjoyed this course you can find more free resources and courses on [OpenLearn](#).

If you would like to study with The Open University, and would like to know more about our taught postgraduate courses and research degrees, please visit [the OU prospectus](#).

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Open University, 'Preparing for postgraduate study'

Open University, 'Skills for OU study: time management'

Rezaie, P. (2015) 'Part-time distance learning and studying for a Master's', presented at the London Postgraduate Study Fair (Senate House, 29 January 2015), organised by FindAMasters.com and FindAPhD.com

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Activity 3 Extract 2: from The Quality Assurance for Higher Education (QAA) (2014) 'UK Quality Code for Higher Education Part A: Setting and Maintaining Academic Standards; the Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies' [Online]. Available at <http://www.qaa.ac.uk/en/Publications/Documents/qualifications-frameworks.pdf>
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Week 4

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Activity 1: Archard, (2013) *Adolescent Leadership: The Female Voice in Education Management Administration and Leadership* 41(3) 336-351. Published by Sage

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Week 8

Text

Activity 1: extract from Chase, N. L., Sui, X. and Blair, S. N. (2008a) 'Comparison of the health aspects of swimming with other types of physical activity and sedentary lifestyle habits', *International Journal of Aquatic Research and Education*, vol. 2, no. 2, pp. 151–61. And Chase, N. L., Sui, X. and Blair, S. N. (2008b) 'Swimming and all-cause mortality risk compared with running, walking and sedentary habits in men', *International Journal of Aquatic Research and Education*, vol. 2, no. 3, pp. 213–22.

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