

Student SkillPack

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Critical Analysis

DEVELOPMENT LEVEL



CRITICAL ANALYSIS Development Level

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On university/college courses it is important to use the skill of critical analysis, even more so at higher levels (eg *towards the final year*), and to use it in a way which is generally acknowledged to be 'academic'. This SkillPack aims to:

- explain what is meant by critical analysis in a university/college context
- help you to be critical and analytical in your coursework
- and therefore to help you with your assessed work.

We suggest you use this SkillPack:

- when you begin work on an assignment (eg *project, dissertation, presentation, report*) and then while you are working on your assignment
- in relation to any published information you use, whatever the format (eg *written, oral, visual, electronic*)
- in relation to any information you have collected (eg *from surveys, interviews, experiments, field work*).

You may find it helpful to practise this skill by using this chapter first with a short piece of written work in front of you (eg *an article*).

This chapter is linked to the Development Level SkillPack 'Gathering and Using Information', and it is suggested that you use them together. You will find it helpful to begin with the Starter Level SkillPack 'Gathering and Using Information'.

When you have completed it, you should be able to:

Plan and use strategies

- identify opinion, unfounded claims, assumptions
- identify the relevance and significance of any aspects related to a topic, critically analyse information/data, identifying inaccuracy, opinion, bias and distortion
- identify what makes evidence/proof appropriate in a particular context (eg *sufficiency, validity, currency, accuracy, relevance, reliability, completeness*)
- question, in an appropriate way for a context, the evidence or proof for claims
- identify, explain and analyse different perspectives on a topic
- make connections between elements (including perspectives) of the

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same or different topics in order to identify common themes, models or theories

- justify any links and connections identified
- summarise and synthesise information/data coherently
- make and justify judgements
- interpret information in relation to a particular context and purpose
- analyse and criticise an academic argument.

Evaluate strategy and present outcomes

- organise and clearly present information
- devise and sustain an academic argument supported by appropriate evidence
- evaluate your effectiveness in critical analysis strategies and the factors that affected it
- plan to further develop your information skills.

You should be able to do this in relation to information which may be complex, unpredictable/uncertain, incomplete, or ambiguous.

(Based on QCA Key Skill specifications, QCA 2000)

1 What is required?

1.1 What is critical analysis?

'To analyse' is to break information into its elements. 'To be critical' (in an academic sense) is to make careful judgements about information and to evaluate its quality.

1.2 What is not critical analysis?

Critical analysis is not:

- a straight description of something
- making assumptions without checking them out
- making generalisations which are not supported by evidence
- accepting information without questioning it
- giving information with mistakes in it or which is misleading
- saying 'This writer says this, that writer says that' without also giving your views on what the differences are between what the two writers are saying.

1.3 What your tutors expect

It is important not only to find information but to use it in ways which are understood by academic staff to be 'at an academic level'. You may track down everything on a topic, but this on its own will not get a good mark/grade.

What is required is the ability to be critical of information and to make your own judgements about it, well supported by evidence.

Perry

The work of an American researcher called Perry (1970) may help to clarify what tutors expect. From talking to American students he identified nine stages of 'ethical and intellectual development'. These stages can be summarised as:

Summary of stage	Our example
1. The authorities know	eg <i>'the tutor knows what is right and wrong'</i>
2. The true authorities are right, the others are frauds	eg <i>'my tutor doesn't know what is right or wrong, but other tutors do'</i>
3. There are some uncertainties and the authorities are working on them to find the truth	eg <i>'my tutors don't know, but somebody out there is trying to find out'</i>
4. a) Everyone has a right to their own opinion b) The authorities don't want the right answers. They want us to think in a certain way	eg <i>'different tutors think different things'</i> eg <i>'there is an answer that the tutors want and we have to find out what it is'</i>
5. Everything is relative but not equally valid	eg <i>'there are no right and wrong answers, it depends on the situation, but some answers might be better than others'</i>
6. You have to make your own decisions	eg <i>'what is important is not what the tutor thinks but what I think'</i>
7. First commitment	eg <i>'for this particular topic I think that...'</i>
8. Several commitments	eg <i>'for these topics I think that...'</i>
9. Believe own values, respect others, be ready to learn	eg <i>'I know what I believe in and what I think is valid, others may think differently and I'm prepared to reconsider my views.'</i>

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You may be at different stages in different areas of your life (eg *at stage 9 for academic issues, but at stage 1 when learning to drive a car*). In your academic work, tutors will want you to be at the higher stages by the end of a course.

The middle stages in Perry's scheme may cause anxiety and confusion. You no longer think others have the right answers, but have not yet decided on your own views. You may feel that the more you learn about something the more it seems you don't know.

Bloom

Bloom developed a hierarchy of cognitive (thinking) skills. Bloom's (1979) *Taxonomy of Educational Objectives* has 'knowledge' at the lowest level, the hierarchy moving through several stages until the highest level, evaluation. It can be summarised as:

1. Knowledge
 - of specifics
 - of processes
 - of concepts

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2. Comprehension
3. Application
4. Analysis (eg *of elements, of relationships between elements, of principles*)
5. Synthesis (putting elements together eg *plans, proposals for operations, creation of models to explain data*)
6. Evaluation (making judgements)

(From Bloom, B. (ed.) *Taxonomy of Educational Objectives*, copyright 1979 by Allyn & Bacon. Adapted by permission.)

By the end of degree courses, for example, you are expected to be able to show all those levels.

1.4 Your current skills

What 'Perry stage' are you are at in this course? Are you at different stages for different units or topics?	What 'Bloom stage' are you are at in this course? Are you at different stages for different units or topics?

2 Clarifying your task

What do the instructions for your assignment mean? Your assignment may explicitly tell you what to do, or it may imply that you do certain things without explicitly saying so (eg *if you are asked to make recommendations that implies you have to evaluate something and draw conclusions*).

It helps to:

- break the task into its elements
- identify explicit instruction words
- see if the topic implies other instruction words; use dictionaries to identify what instructions mean
- rewrite the instructions in your own words.

If in doubt, ask your tutor.

The SkillPacks on 'Gathering and Using Information' help you to clarify your task as do the other SkillPacks.



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Instruction	What is meant
clarify	identify the components of an issue/topic/problem/; identify the main points; make the meaning plain; remove ambiguities or misunderstandings; restate something in your own words
analyse	break information into constituent parts; examine the relationship between the parts; question the information
be critical	identify what is good and bad about the information and why, probe, question, identify inaccuracies or shortcomings in the information, estimate the value of the material
evaluate, weigh up	as above but also - come to a conclusion (see below) about the information
balance	look at two or more viewpoints or pieces of information; give each equal attention; look at good and bad points; take into account many aspects and give an appropriate weighting to those aspects
compare	consider the similarities or dissimilarities; implies evaluation (eg <i>which aspects of two or more topics/subjects are most valuable</i>)
identify trends	identify patterns/changes/movements in certain directions (eg <i>over time or across topics/subjects</i>)
argue	put the case for/against a view or idea giving evidence for your claims/reasons; attempt to influence the reader to accept your view
conclude/draw conclusions	the end point of your critical thinking; what the results of an investigation indicate; arrive at a judgement by reasoning
develop a view	decide what you think (based on an argument or on evidence)
justify	make a case for a particular view; explain why something is like it is/why there is a certain view on it; give reasons; show adequate grounds for something
give evidence	evidence from your own work or that of others which could be checked by a third party to prove/justify what you say
summarise	briefly identify the main points or aspects of the information, remove unnecessary detail
review	similar to summarise (see above) but usually includes evaluation (see above), an overview, a reconsideration of something

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3 Evidence, opinions and claims

3.1 Evidence

Material (either published or your own work) should include evidence for what it claims. Evidence is proof for something (think of 'evidence' in a TV crime programme). To identify if evidence is appropriate for a situation, consider if it is:

- valid, ie does it prove what it claims to prove
- current, ie is it up to date, or is the date appropriate (eg for *historical issues*)
- accurate
- relevant
- reliable, ie can you trust it
- complete
- sufficient, ie enough evidence to prove something.

3.2 Opinions

An opinion is an idea for which there is no evidence. In academic work it is bad practice to give an opinion without evidence (unless you clearly state that it is only an opinion). It is particular important to identify opinions without proof if they are central to an argument (see Section 5 below).


Within a subject area, some ideas may be so well accepted by subject specialists that they are seen as 'truths' and it is not necessary to keep repeating the evidence. It may take quite a lot of subject experience before you know what these 'truths' are. Until you get to that point, it may be safer to check there is evidence for them.

For practice, look at a piece of information and identify any statements which are opinions (ie which have no evidence or proof).



3.3 Claims

A claim is a statement of something you believe or you have discovered (eg *a hypothesis*). It must be supported by evidence or proof – otherwise it is an opinion. In a piece of work the proof or evidence may not always be next to the claim – it may appear later.

For practice, you could look at a piece of information and identify the claims made and the evidence. 

Claims	Evidence

The following sections will help you decide whether the evidence is believable or acceptable.

4 Questioning the information/evidence

Sections 4.1– 4.4 consist of questions to consider in relation to information. You could add your own questions to the lists and use them whenever you have to critically analyse information. When others (eg *assessors*) look at your work, they will ask similar questions about it, so you could use the following sections as 'checklists' when editing your own work.

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4.1 Analysing the information

Question	Your notes	Your own questions
What are the essential elements?		
What are the most important points made?		
What concepts lie beneath the factual information?		
Are there any recurring themes?		
Is all the information relevant to the topic?		
Is the information significant (ie is it noteworthy or important for the topic)?		
Is the evidence believable?		

4.2 Accuracy, completeness, currency, bias



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Question	Your notes
Is the information accurate? Do figures add up? Are the statistics misleading (see Huff 1973)?	
How selective is the material? Is it complete? What more is needed? Does it (perhaps deliberately) omit any information?	
How up to date is the information? Is the date important? Has the information been superseded by more recent information?	
Is the source of the information reliable or reputable? Can you trust what they say?	
Might the source of the information be biased? Have they got a vested interest?	
Your own questions (please add)	

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4.3 Questioning and checking for assumptions


Question	Your notes
Why do those giving the ideas/opinions/claims think as they do? Why was the information prepared? What were the underlying assumptions?	
Is it necessarily so? Could there be reasons other than those suggested?	
Are the ideas/opinions/claims based on values/attitudes? What are they? Do they relate to a specific group (eg <i>gender, social class</i>)? Would the ideas/opinions/claims look different with different values/attitudes?	
Do you agree/disagree with the concepts/ideas? Why?	
Have you accepted the ideas/opinions/claims because they confirm what you think, rather than because there is good evidence for them?	
Are there other situations where the ideas/opinions/claims should also apply and do they? What exceptions might there be?	
What would people unfamiliar with the material ask about it? What will your audience or reader make of it, or not understand?	
Your own questions (please add)	

Ruggiero (1996) suggests the following reasons for these producing the information making mistakes or distorting information:

- their perceptions (eg *being over positive or over negative*)
- how they made their judgements (eg *irrelevant criteria, stereotyping, oversimplifying*)
- their reactions to the topic (eg *discomfort may lead them to attack individuals, or to explain things away*).

4.4 Comparing information



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Question	Your notes
Are there any connections between aspects of the information?	
How does what one author/source say compare with what others say? Are the similar/different? How?	
Do most authors/sources agree? If one disagrees, how, what are their views based on (eg <i>new information; different values or perceptions</i>)?	
What do other authors/sources say about one particular author/source?	
Which author/source do you agree with? Why? What is the evidence for what you think?	
Your own questions (please add)	

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4.5 Some examples

The following gives examples of critical analysis, in relation to some of the points in sections 4.1–4.4 above .

Issue	Example
Checking and questioning assumptions	<i>'Business Process Re-engineering' assumes that businesses have processes which can be re-engineered; 'the economy depends on having a skilled workforce' is an assumption unless information which proves the statement is given.</i>
Claims should be supported by evidence	<i>Evidence might include quotations; summaries of information from the literature; results of investigative work you have carried out; statistics.</i>
Are there any other explanations for information?	<i>If figures for shipments of personal computers (PCs) have increased is it because more PCs are shipped or because the collection of data is more efficient?</i> <i>Do statistics on the connections between cigarette smoking and health conceal other factors, eg about social class?</i>
Reasons for bias should be identified	<i>IT strategy writers may have a vested interest in asserting that IT strategy works.</i> <i>A report on cigarette smoking may be selective in the information it presents about the dangers, if written by those in favour of smoking.</i>
Information and how it is presented should not be misleading	<i>Examples of misleading information: using percentages when the base numbers are very small; drawing graphs which are not to scale.</i>
Dates of information may be important	<i>Information on the connections between cigarette smoking and health may have been produced before certain medical evidence emerged.</i>

4.6 Giving evidence for your criticisms

It is not enough to give criticisms, you must provide evidence for them (eg *other writers' criticisms of a concept, or factual information which contradicts an argument*). If you have found evidence of bias or distortion you need to identify the reasons and justify why you consider the bias to exist. You must provide accurate references for information. Who said it? When?

5 Academic argument

5.1 What is an 'academic argument'?

It is putting forward a line of reasoning. An argument usually consists of claims (see 3.3 above) for which evidence is given (see 3.1), and which are put into the best order (organised, or structured) to persuade the reader or listener to agree.

5.2 Understanding an argument

This section consists of questions you could ask in relation to an argument you are considering now. Add your own questions and use them whenever you have to understand an argument.

When other people (eg assessors) look at **your** arguments in **your** work, they will ask similar questions about it, so also use the following to make sure your **own** arguments are strong.



Question	Your notes
What is the main point or claim being made?	
What subsidiary points/claims are being made?	
Do the subsidiary points/claims connect logically with the main one? Are all the points/claims linked together? Are they in an order which aids understanding?	
Is there appropriate evidence for each point/claim (see 3.1)?	
Have any steps/information/evidence been missed out of the argument?	
Has information/points/claims not relevant to the main point/claim been included?	
Do the conclusions follow from the points/evidence/claims? Have judgements been made about the topic or information?	
Your own questions (please add)	

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6 Presenting your work

In presenting the results of your critical analysis you need to check:

- that you have given the sources for your information/evidence, correctly referenced (see the Starter Level SkillPack 'Gathering and Using Information')
- that the reader/user/listener could find the information/evidence
- that the way you have presented your work will help the reader/user/listener understand it. This partly relates to how well you have presented your argument (see Section 5 above), but also to factors such as the layout and the appropriateness of the format (eg *presenting information visually or in text*). You may find the Development Level SkillPack 'Essay Writing' helpful here (even if you are not producing an essay).

7 Improving your skills

7.1 Your current skills

Consider the following in relation to a current or recent piece of work:

What do you think you did well in critically analysing it?	What factors affected this (about you as a person or factors outside yourself)?
What do you think you did not do well?	What factors affected this (about you as a person or factors outside yourself)?



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Do you find anything difficult about critical analysis? What?	Why?

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7.2 Planning to improve

Use the following to help you plan to improve your skills of critical analysis



Aspect I need to improve	Action I need to take	By (deadline)

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8 References and bibliography

Bloom, B. S. (1979), *Taxonomy of Educational Objectives*, Longman

Huff, D. (1973), *How to Lie with Statistics*, Penguin

Perry, W. G. (1970), *Forms of Intellectual and Ethical Development in the College Years*, Rinehart and Winston

Ruggiero, V. R. (1996), *Becoming a Critical Thinker*, Houghton Mifflin

8.1 Student skills product list

Having worked through this SkillPack you might like to know that similar structured, straightforward guidance is also available on the following topics:

- Identifying Strengths and Improving Skills
- Organising Yourself and Your Time
- Note Taking
- Gathering and Using Information
- Essay Writing
- Report Writing
- Oral Presentation
- Visual Communication
- Solving Problems
- Group Work
- Seminars, Group Tutorials and Meetings
- Negotiating and Assertiveness
- Coping with Pressure
- Revising and Examination Techniques
- Improving Your Learning
- Reflecting on Your Experience
- Action Planning

The Student Skills Guide Second Edition

All of the SkillPacks listed above are gathered together and are available as a paperback workbook (0 566 08430 9).

Published by Gower Publishing Limited,
Gower House, Croft Road, Aldershot, Hampshire, GU11 3HR

