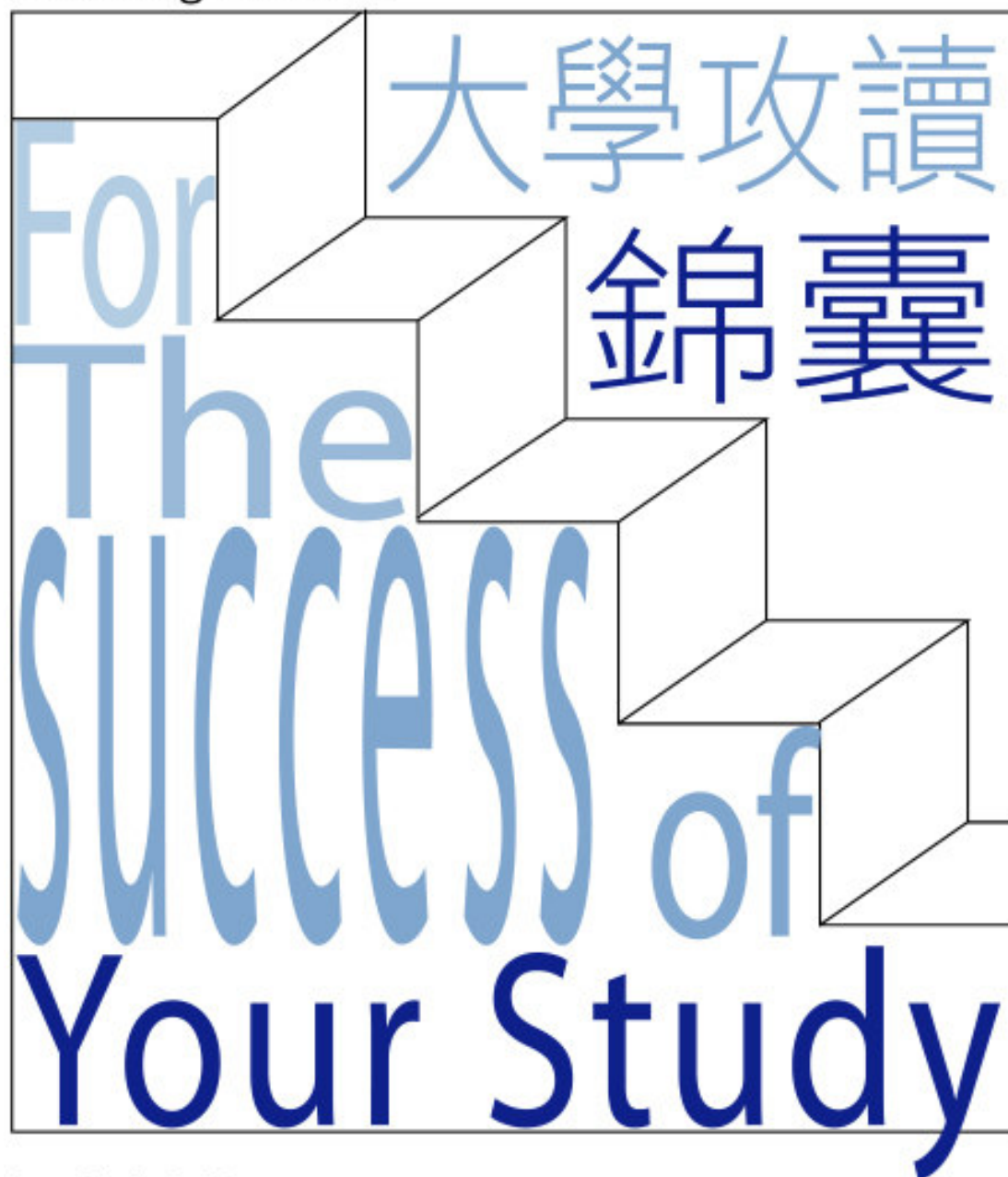


Name :  
Student ID :  
Male/ Female

## Learning to learn



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## About the 'Learning to Learn' study guide series

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### The Learning to Learn study guide series:

- Getting the most out of your university
- For the success of your study
- Working your way through a group project

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# 1

## Learning to Learn: Thinking about Learning

### 1.1 *What is learning?*



*“Want to learn?”*

*“Sure!”*



*“Then you have to start thinking about ‘What is learning?’ Put down your opinion in the answer box below.”*

*Think seriously, you will be asked to refer back to what you have said here.*



I think learning is:

### 1.2 *What is a good answer?*



*“Want to get good grades?”*

*“Sure!”*



*“You can get good grades only with good answers. What is a good answer? What is learning? Put down your opinion in the answer box below.”*

*Think seriously, you will be asked to refer back to what you have said here.*



I think a good answer is:



Good! You have now **made clear** to yourself **what you think about learning**. This is an **important starting point** for you to develop your understanding and skills in learning.

To move on, let us see how other university students may think about learning.

## 2

### What is Learning?

#### 2.1 Different views on 'What is learning?'

University students hold different views on 'What is learning?' Some examples are:

*Student A: Learning is to know more. Get more knowledge.*

*Student B: I have to learn to do the tasks, e.g. using formulae to solve numerical problems, following procedures to perform a technique.*

*Student C: I am not satisfied with just knowing how to do something. I really learn only when I understand the meaning behind the formulae and the procedures.*

*Student D: When I have really learned something, I am able to see things in a new way.*



*I wonder which student thinks much like me !? Let me see ...*

**The thinking of Student \_\_\_\_\_ is much like what I have put down on p.1.**

#### 2.2 'Simple' vs 'Advanced' views on learning

Did you notice that the views of Students A to D range from simple to advanced? **Find out their differences.** The following easy comparison exercise can help you.



**Underline ONE word** in each of A and D which can show their major difference.

*Student A: Learning is to know more. Get more knowledge.*

*Student D: When I have really learned something, I am able to see things in a new way.*

**Underline ONE word** in each of B and C which can show their major difference.

*Student B: I have to learn to do the tasks, e.g. using formulae to solve numerical problems, following procedures to perform a technique.*

*Student C: I am not satisfied with just knowing how to do something. I really learn only when I understand the meaning behind the formulae and the procedures.*



**Simple views** on learning mainly focus on '**quantity**': getting more knowledge (Student A) or gaining more skills to do tasks (Student B).

**Advanced views** emphasize the '**quality**' of learning: understanding meanings (Student C) and forming new ideas about things (Student D).

*If you try to remember a lot of information or learn to carry out procedures without really understanding them, it is only 'quantitative' learning.*

**'Quantity' without 'Quality' is NOT GOOD learning!!**



## What is a Good Answer?

### 3.1 Different views on 'What is a good answer?'

What will Students A, B, C, and D mentioned on p.2 say about a good answer? Match them and your answer on p.1 with the three different descriptions of an answer (Answers X, Y and Z). *You can match more than one student with an Answer.*



Student A •	• Answer X: It is important to <u>reproduce as many points as possible</u> from the notes or the textbook, <u>whether you understand them or not</u> .
Student B •	
Student C •	• Answer Y: The answer should be able to give a <u>meaningful explanation</u> of the topic, showing how things are <u>related and applied</u> .
Student D •	
<b>MYSELF</b> • (answer on p.1)	• Answer Z: I wish that I could come up with <u>original ideas of my own</u> in addition to showing a <u>deep understanding</u> of the topic.

Students A and B have simple, quantitative views on learning. It is more likely for them to go for **Answer X**, which emphasizes '**quantity**' more than understanding.

Students C and D have advanced, qualitative views on learning. They may talk about **Answers Y or Z**, which aim at **meanings and original ideas**.

*What about you??*

### 3.2 Professors' views about a good answer

You probably want to know the views of your professors as well. Here are some of their comments. Which of Answers X, Y and Z do you think professors will prefer?

*Professor A:* Some students put in a lot of stuff but the points are unrelated. This shows that they do not really know the answer.

*Professor B:* I look for quality instead of quantity. I DO NOT WANT a list of unrelated points. I look for answers written in a manner that they are addressing the issues asked in the questions.



Professors will prefer Answer(s) X / Y / Z\* above.

\* Circle your answer(s).



Professors do not expect you to give them a lot of unrelated points (like Answer X). Instead, they look for **relevant points presented in a meaningful manner** (Answer Y) and value **original ideas** very much (Answer Z).

**'Quantity' ALONE does not make good answers.** The most important criterion for **good answers** is **'Quality'**.

## 4

### What Determines the Grade of an Answer?

#### 4.1 *The grade depends on the level of learning outcome*

Answers are given different grades because they represent different levels of learning outcome. Learning outcomes mean what you have achieved through the learning.

The three descriptions of an answer on p.3 (Answers X, Y, Z) represent three different levels of learning outcome. They are reproduced in the table below. **Read** them **carefully** and do these:

- Underline the words** which show the characteristics of the answer.
- Guess the grade** that such an answer may get



	<u>Underline the characteristics</u>	<i>Grade</i>
Answer X	It is important to reproduce as many points as possible from the notes or the textbook, whether I understand them or not.	
Answer Y	The answer should be able to give a meaningful explanation of the topic, showing how things are related and applied.	
Answer Z	I wish that I could come up with original ideas of my own in addition to showing a deep understanding of the topic.	

#### 4.2 *Three levels of learning outcome*

##### **Answer X - Unrelated Details**

It shows '**quantitative learning**' whereas the 'quality' is usually poor. Students giving Answer X aim to include as much information as possible instead of paying attention to the relevance and interrelationship of the information. Because of the lack of understanding, they can only reproduce information as it is from the notes or the textbook. Therefore, they may not be able to address the question asked. It is only an average answer.

##### **Answer Y - Relational Understanding**

It shows **understanding** of meanings and relationships of the information and ideas. It is the kind of answer which professors want to see and would award good grades.

##### **Answer Z - Extended Ideas**

It **goes beyond what is taught** by giving **original ideas**. It is the kind of answer which professors would value and would award a very high grade.



You should avoid producing answers of 'Unrelated Details' and should try to work at the 'Relational Understanding' and 'Extended Ideas' level. HOW? Read on ⇒

## 5

### A Good Learning Outcome: Relational Understanding

#### 5.1 Improving from ‘Unrelated Details’ to ‘Relational Understanding’

Professors find that many students learn at the ‘Unrelated Details’ level, simply memorising as much information as they can. In order to improve to the ‘Relational Understanding’ level, you must know the differences between the two levels.



	<i>Unrelated Details</i>	<i>Relational Understanding</i>	<i>Improving towards ‘Relational Understanding’</i>
<i>Quantity of information</i>	try to include as much information as possible	adequate information	Spend <b>more time on thinking</b> about the information. <b>Do NOT simply memorize</b> a large amount of information.
<i>Relevance of information</i>	irrelevant information also included	relevant to the question	
<i>Organisation of information</i>	<ul style="list-style-type: none"> <li>-lack of a clear structure</li> <li>-list facts with poor linkage</li> <li>-unsupported conclusion</li> <li>-not addressing the key issues</li> </ul>	<ul style="list-style-type: none"> <li>-a coherent structure</li> <li>-show interrelationship</li> <li>-concepts are integrated</li> <li>-support with evidence and argument</li> <li>-focus on the question asked</li> </ul>	<ul style="list-style-type: none"> <li>-<b>Think</b> about the <b>meaning</b> of the information.</li> <li>-<b>Clarify</b> the <b>relationship</b> among the information, concepts, etc.</li> <li>-<b>Organise</b> the information, concepts, evidence, conclusions, etc. into a <b>meaningful structure</b>.</li> <li>-<b>Avoid</b> listing facts as <b>unconnected points</b>.</li> </ul>

#### 5.2 To achieve ‘Relational Understanding’ - Think in this way!

The following are very useful thinking tasks which can help you achieve ‘Relational Understanding’. **Study the example** for a deeper understanding of **how each is done**.



<i>Thinking task</i>	<i>What the thinking task does?</i>	<i>How well am I doing now?</i>					<i>See example on this page</i>
		<i>Very well</i>			<i>Not well</i>		
Contrast	Show the important difference between things.	5	4	3	2	1	12
Compare	Show how things are alike or not alike.	5	4	3	2	1	13
Analyze	Examine in detail the elements of a topic and how they relate to each other.	5	4	3	2	1	14
Explain	Give the meaning of a topic clearly.	5	4	3	2	1	15
Relate	Show that the ideas are connected to each other.	5	4	3	2	1	16
Apply	Make use of specific knowledge or concepts to solve a problem.	5	4	3	2	1	17

## 6

### An Excellent Learning Outcome: Extended Ideas

#### 6.1 Improving from ‘Relational Understanding’ to ‘Extended Ideas’

If you have already achieved at the ‘Relational Understanding’ level, the following table shows you how to improve to the excellence of ‘Extended Ideas’.



	<i>Relational Understanding</i>	<i>Extended Ideas</i>	<i>Improving towards ‘Extended Ideas’</i>
<i>Understanding</i>	Good understanding of the topic	Understand how the topic is related to other topics	<ul style="list-style-type: none"> <li>- <b>Relate</b> the topic to <b>previous knowledge</b> from <b>different courses</b></li> <li>- <b>Relate</b> theories to <b>experiences</b></li> <li>- Try to <b>form your own conceptual framework</b> for integrating the knowledge</li> <li>- <b>Read</b> widely</li> <li>- <b>Discuss</b> with teachers &amp; students</li> <li>- <b>Reflect</b> on past experience</li> <li>- <b>Brainstorm</b> ideas</li> </ul>
<i>Coverage in the answer</i>	Covers what has been discussed within the topic	Goes beyond what has been discussed	
<i>Structure of the answer i.e. how facts and concepts are organised</i>	The structure is similar to that used in the book or by the professor	Develops a new structure based on the ‘extended’ understanding	
<i>Problem solving</i>	Able to solve familiar problems	Able to solve unseen, real problems	

#### 6.2 To achieve ‘Extended Ideas’ - Think in this way!

The following are very useful thinking tasks which can help you to achieve the level of ‘Extended Ideas’. **Study the example** for a deeper understanding of **how each is done**.



<i>Thinking task</i>	<i>What the thinking task does?</i>	<i>How well am I doing now?</i>					<i>See example on this page</i>
		<i>Very well</i>			<i>Not well</i>		
Reflect	Show new understanding of something by studying past experience	5	4	3	2	1	18
Generalize	Draw a general conclusion from a number of facts	5	4	3	2	1	19
Recommend	Suggest what is appropriate to do based on a critical evaluation of available information	5	4	3	2	1	20
Hypothesize	Propose an idea which can be used as a starting point for further study	5	4	3	2	1	21
Theorize	Form general principles of an art or science	5	4	3	2	1	/

# 7

## Are You Working Towards Good Learning?

The way you do your studying will certainly affect your learning outcome. Complete the following questionnaire. It will help you understand whether you are working towards a high level of learning.

*Choose the most appropriate response to each item.*

*5: always or almost always true of me*

*4: frequently true of me*

*3: true of me about half the time*

*2: sometimes true of me*

*1: never or only rarely true of me*



1. I find that at times studying gives me a feeling of deep personal satisfaction.	5	4	3	2	1
2. I find that I have to do enough work on a topic so that I can form my own conclusions before I am satisfied.	5	4	3	2	1
3. My aim is to pass the course while doing as little work as possible.	5	4	3	2	1
4. I only study seriously what's given out in class or in the course outlines.	5	4	3	2	1
5. I feel that virtually any topic can be highly interesting once I get into it.	5	4	3	2	1
6. I find most new topics interesting and often spend extra time trying to obtain more information about them.	5	4	3	2	1
7. I do not find my course very interesting so I keep my work to the minimum.	5	4	3	2	1
8. I learn some things by rote, going over and over them until I know them by heart even if I do not understand them.	5	4	3	2	1
9. I find that studying academic topics can at times be as exciting as a good novel or movie.	5	4	3	2	1
10. I test myself on important topics until I understand them completely.	5	4	3	2	1
11. I find I can get by in most assessments by memorising key sections rather than trying to understand them.	5	4	3	2	1
12. I generally restrict my study to what is specifically set as I think it is unnecessary to do anything extra.	5	4	3	2	1
13. I work hard at my studies because I find the material interesting.	5	4	3	2	1
14. I spend a lot of my free time finding out more about interesting topics which have been discussed in different classes.	5	4	3	2	1
15. I find it is not helpful to study topics in depth. It confuses and wastes time, when all you need is a passing acquaintance with topics.	5	4	3	2	1
16. I believe that lecturer shouldn't expect students to spend significant amounts of time studying material everyone knows won't be examined.	5	4	3	2	1
17. I come to most classes with questions in mind that I want answering.	5	4	3	2	1
18. I make a point of looking at most of the suggested readings that go with the lectures.	5	4	3	2	1
19. I see no point in learning material which is not likely to be in the examination.	5	4	3	2	1
20. I find the best way to pass examinations is to try to remember answers to likely questions.	5	4	3	2	1

*Now add up two scores:*

Score A = sum of scores for items **1, 2, 5, 6, 9, 10, 13, 14, 17, 18** =

Score B = sum of scores for items **3, 4, 7, 8, 11, 12, 15, 16, 19, 20** =

***Want some explanation? Turn to the next page.***

Source of the questionnaire:

Biggs, J., Kember, D. & Leung, D.Y.P. (2001) The revised two-factor Study Process Questionnaire: R-SPQ-2F. British Journal of Educational Psychological Society, 71, 133-149.

## Deep and Surface Approaches to Learning

### 8.1 *Deep and Surface Approaches to Learning*

- ✦ Items making up Score A describe a 'Deep Approach' to learning.
- ✦ Items making up Score B describe a 'Surface Approach' to learning.

The following are a few typical items which show the characteristics of the two approaches.



Deep Approach to Learning	Surface Approach to Learning
I find that I have to do enough work on a topic so that I can form my own conclusions before I am satisfied.	My aim is to pass the course while doing as little work as possible.
I test myself on important topics until I understand them completely.	I learn something by rote ( '死記' ), going over and over it until I know it by heart even if I do not understand it.
I find most new topics interesting and often spend extra time trying to obtain more information about them.	I see no point in learning material which is not likely to be asked in the examination.

Which approach do you think will result in a higher level of learning outcome?



<p>The <b>Deep approach</b> is likely to result in which level(s) of learning outcome?</p> <p><input type="checkbox"/> Failure</p> <p><input type="checkbox"/> Unrelated Details</p> <p><input type="checkbox"/> Related Understanding</p> <p><input type="checkbox"/> Extended Ideas</p>	<p>The <b>Surface approach</b> is likely to result in which level(s) of learning outcome?</p> <p><input type="checkbox"/> Failure</p> <p><input type="checkbox"/> Unrelated Details</p> <p><input type="checkbox"/> Related Understanding</p> <p><input type="checkbox"/> Extended Ideas</p>
---	--

### 8.2 *How well are you doing now?*

If you got a high Deep Approach score (Score A, above 35) and a low Surface Approach score (Score B, below 20), then congratulations! Otherwise, it is time for you to seriously rethink and replan how you should study.



A Surface Approach to learning will only result in a low level learning outcome like 'Unrelated Ideas'. 'Relational Understanding' and 'Extended Ideas' can only be achieved with the Deep Approach.

## Learning to Learn: RE-Thinking about Learning



*I hope that you have found something useful on the previous pages. If you are now asked to rethink about your answers to 'What is learning?' and 'What is a good answer?', what will you say?*

### 9.1 *What is learning?*



I now think learning is:

### 9.2 *What is a good answer?*



I now think a good answer is:

### 9.3 *Improving your learning*

Mark on the scale below:

'0' = the level of learning outcome which is characteristic of your current work

'1' = the level of learning outcome which you promise to make in this year

'2' = the level of learning outcome which you hope to achieve in the long run



Failure	Unrelated Details	Relational Understanding	Extended Ideas
---------	----------------------	-----------------------------	-------------------

---



Good! You have now set **a direction for your own improvement.**

**Work hard** towards it!

Now study the **examples** of good answers again for a **practical guide** on how to give good answers.

*TO BE CONT'D / PART 2*

# **Examples of Good Answers**



## EXAMPLE 1

### “RELATIONAL UNDERSTANDING”

The following is an example in ‘Exploring the Psyche’. The student has achieved “relational understanding” by contrasting two different things.

Contrast	Show the important differences between things
----------	---

#### The Question

Show the difference between the East and West and make an argument for why modern science came out of the Western tradition instead of the Eastern.



#### What students commonly do

- They **only describe separately** the attitudes of the East and West **without highlighting the differences**.



#### An example of good work

**The answer examines the characteristics of the Western and Eastern attitudes side by side and topic by topic such that their differences can be contrasted.**

“The West places more emphasis on individual development and discovery of the world. They try to find out the principle that our Earth & its function base on [...] This arouses their urge for knowing the truth & willingness to investigate and explore; **whereas** the East emphasizes collectiveness rather than individualism [...] They believe in the “wholeness” which is the harmony with the world. They don’t want to separate the world into true or false and not aim at controlling the environment by exploring the nature.

*Difference between the East & West in terms of attitude towards man & nature*

Development of the different attitudes highly attributes to the beliefs and philosophy of the two Worlds. Western religion like Christianity [...] emphaizes not the environment but people. They try to discover the resources of the nature & understand the concept & rules over it. **As for the East**, religions such as Buddhism [...] value “Suchness” [...] the concept of the present moment is very important. This explains why Easterners do not favour wars or argument but have the idea that harmony is the basis of happiness. They will utilize the environmental resources but not to destroy them as they rely on the environment to nurture them.

*Difference between the East & West in terms of their philosophy & religion*

## EXAMPLE 2

### ***“RELATIONAL UNDERSTANDING”***

---

The following is an example in Manufacturing Engineering. The student has achieved “relational understanding” by comparing different things.

Compare	Show how things are alike or not alike
---------	--

#### The Question

Compare the different kinds of tools used for the design of a mouse cage.



#### What students commonly do

- They list separately the special characteristics of the tools **without comparing** them.



#### An example of good work

This answer shows whether the tools are the same or how they are different from each other.

**“For hygiene reason**, it is more suitable to use ‘nylon bag’ and ‘stick’ than ‘trap’. ‘Nylon bag’ and ‘stick’ catch mice alive and restrict their movement whereas ‘trap’ wounds a mouse whose blood would contaminate the trap & the environment around.

Showing that two of the tools are alike in the hygienic aspect but are different from ‘trap’

**As for reliability**, ‘nylon bag’ and ‘trap’ are considered more reliable than “stick” which may not be strong enough to hold a mouse [...]

Showing that two of the tools are alike in reliability but are different from ‘stick’

**Among the 3 tools being compared**, ‘nylon bag’ appears to be the most appealing. The only drawback for ‘nylon bag’ is that there is a need to handle the caged living mouse. However, the same handling procedures are required for the mice kept in the other 2 tools as well [...].”

Showing that all the tools are alike in the disposal procedures of mice

## EXAMPLE 3

### “RELATIONAL UNDERSTANDING”

The following is an example in Mechanical Engineering. The student has achieved “relational understanding” by analyzing an opportunity.

Analyze	Examine in detail the elements of a topic and how they relate to each other
---------	---

#### The Question

Analyze the opportunity of your product before proposing a marketing plan.



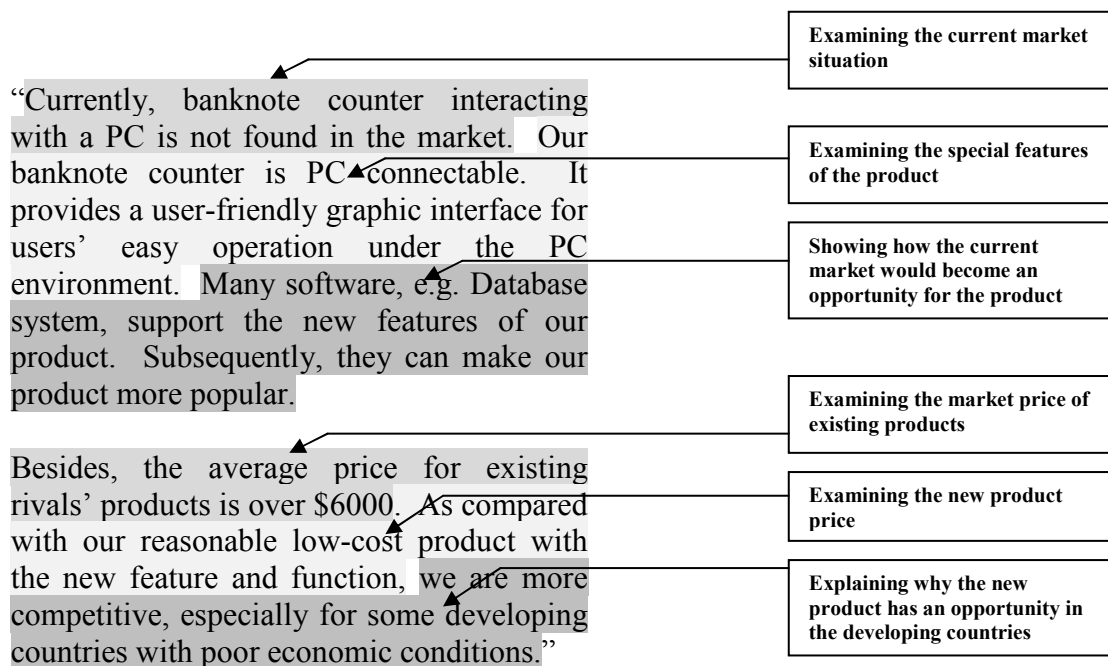
#### What students commonly do

- They only propose a marketing plan based on details of their product without examining its opportunity in the market.



#### An example of good work

**This answer considers both the product and the current market when examining the opportunity.**



## EXAMPLE 4

### “RELATIONAL UNDERSTANDING”

The following is an example in Astronomy. The student has achieved “relational understanding” by explaining a topic.

Explain      Give the meaning of a topic clearly

#### The Question

Explain the meaning of ‘Inverse Square Relationship’



#### What students commonly do

- They give a definition of ‘Inverse Square Relationship’ **without giving an explanation.**



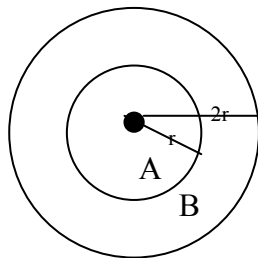
#### An example of good work

The answer tells clearly what is meant by ‘Inverse Square Relationship’.

“Inverse Square Relationship means that a certain physical quantity is inversely proportional to the square of another quantity. The equation can be expressed as  $Y \propto 1/r^2$  where Y is intensity and r = distance from the radiating source.

The topic that needs explanation

Definition of the topic



- Radiation source
- Sphere of different size

Explaining the topic by means of the radiation concept

Explaining the relation between intensity & area

Further explaining the topic by means of the concept of surface area

The radiation of a radiation source is constant and even in all direction. Its intensity is proportional to the radiation energy over the receiving area. This can be expressed simply as the radiation intensity has an inverse relationship with the area. The diagram shows that the intensity would decrease towards the outer zone B, since the surface area of the outer sphere being zone A+B is larger than the surface area of the inner sphere (zone A only). Mathematical calculation also shows that the area of a sphere is proportional to the square of its radius ( $r^2$  for inner sphere &  $4 r^2$  for outer sphere). So the intensity is inversely proportional to the square of radius ( $1/r^2$  for inner sphere &  $1/4r^2$  for outer sphere) [...]

## EXAMPLE 5

### “RELATIONAL UNDERSTANDING”

The following is an example in Optometry. The student has achieved “relational understanding” by relating the ideas.

Relate	Show that the ideas are connected to each other
--------	---

#### The Question

Discuss what you would prescribe to a patient who is seriously shortsighted, has 360° (~1.5mm) neovascularization (*growth of blood vessels into the cornea*) & has deposit problems from previous soft lens wear.



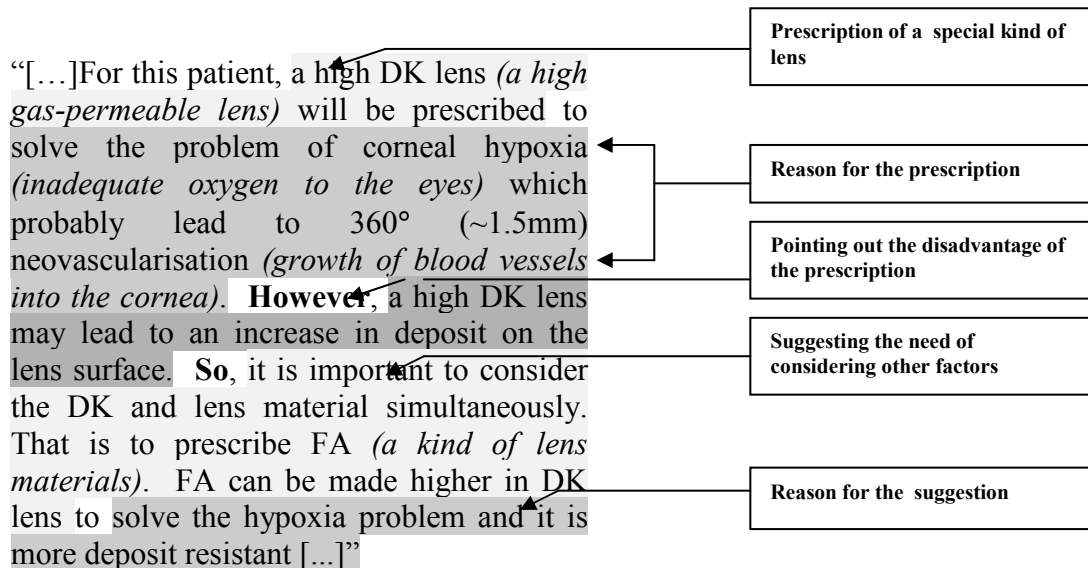
#### What students commonly do

- They give details of the prescription but the ideas are **not meaningfully linked up to answer the question.**



#### An example of good work

The choice of the lens is discussed logically in relation to the patient’s symptoms. (*Note that italic information in brackets are not in original answer*)



## EXAMPLE 6

### “RELATIONAL UNDERSTANDING”

The following is an example in Textiles & Clothing. The student has achieved “relational understanding” by applying his knowledge.

Apply	Make use of specific knowledge or concepts to solve a problem
-------	---

#### The Question

Differentiate, using Fehling’s solution and the Methylene Blue, which of the 4 pieces of cloth given are reducing type oxycellulose.



#### What students commonly do

- They only show knowledge of the properties of oxycellulose, but they do not show how the knowledge is used in solving the problem given.



#### An example of good work

The student clearly shows that he makes use of his knowledge to solve the problem given.

“The properties of reducing type oxycellulose are: its strong reducing power and low absorption power for basic dye.

When the reducing type is immersed in Fehling’s solution, it will convert copper ion in the solution from Cupric ( $\text{Cu}^{++}$ ) which is colourless to Cuprous state ( $\text{Cu}^+$ ) which is in brown colour. Therefore, the comparatively high content of brown colour which appears on cloth A and B proves that they have a higher reducing power.

Moreover, when another set of cloth A and B is immersed in Methylene Blue solution, a relatively low absorption power is shown in cloth A and B by the level of blue colour presented.

Since the results obtained show comparatively high reducing power and low absorption power in cloth A and B, we can conclude that cloth A and B are reducing type oxycellulose.

Showing knowledge of the property of reducing type oxycellulose

Applying the knowledge to interpret test results

Applying the knowledge of oxycellulose to make a conclusion

## EXAMPLE 7

### ***“EXTENDED IDEAS”***

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The following is an example in the study of English language. The student has achieved “extended ideas” by reflecting on the situation.

Reflect	Show new understanding of something by studying past experience
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#### The Question

Reflect on your experience of carrying out corpus linguistics research (NB.: Corpus is a large collection of natural texts)



#### What students commonly do

- They provide simple and general ideas **without referring to their experience.**



#### An example of good work

The student shows an in-depth understanding of the problems and the value of the research carried out.

“I consider this mini-project to be the most difficult of the discourse analysis assignments. This is due to the fact that the choice of linguistic features to investigate proved to be a problem because of their similarity in outlook. However, on completion of the research, I am convinced that this is a challenge but also an opportunity for researchers. It is only when there is confusion caused by the use of lexical items that deserves our investigation and corpus-based investigation such as this study of two seemingly synonymous lexical items is of substantial value to the learners.

Reflect that similar items may cause confusion but are of value for research

Through this research, I am able to grasp the different uses of ‘almost’ and ‘nearly’ in certain linguistic contexts much more clearly [...] Corpus-based study provides me with better perspective of what Biber, Conrad and Reppen proposed regarding one of the most important aims of corpus-based lexicographic research, “[...] learners need to understand how words are actually used, in addition to simple meanings or lists of supposedly ‘synonymous’ terms” (1998: 53). My experience with corpus-based study reflects to me that the confusion in the use of words can be clarified with the adoption of a proper research method and instrument.”

Reflect on student’s value of corpus-based study and the study’s improvement in understanding the aim of the research

## EXAMPLE 8

### ***“EXTENDED IDEAS”***

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The following is an example in Ecological Perspectives. The student has achieved “extended ideas” by generalizing the information.

Generalize	Draw a general conclusion from a number of facts
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#### The Question

Figure out the value of the different human groups associated with the Long Valley site.



#### What students commonly do

- They provide factual data of what people said **without drawing a general conclusion** of their value.



#### An example of good work

The answer draws a conclusion of people’s value based on the data collected.

“[...] Economists talk about the money [...] even the Green Groups at times think about how great it is to conserve nature for the next generations.

Review the viewpoints of different human groups

From the viewpoints of the different groups of people, I would like to draw a conclusion that the majority of the population is focusing a lot on economically developing every piece of land in Hong Kong. They value the profit generated from land development. They undermine the importance that they themselves are part of nature and adopt a human-centred view when looking at it. All they talk about is for the benefit of human beings and consider that they are different from nature [...].”

Drawing a general conclusion of people’s value of nature based on their viewpoints



## EXAMPLE 9

### “EXTENDED IDEAS”

The following is an example in Manufacturing Engineering. The student has achieved “extended ideas” by giving recommendations.

Recommend	Suggest what is appropriate to do based on a critical evaluation of available information
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### The Question

Evaluate the efficiency of the \*COMSOAL software for line balancing (*i.e. providing an optimal solution for the production line*) in the laboratory exercise of assembling toy trains.

*\* The COMSOAL (The Computerized Method for Sequencing Operations on Assembly Lines): a software that generates information regarding maximum efficiency required in a production line.*



### What students commonly do

- some students just point out the advantages and limitations of COMSOAL **without giving any suggestions for improvement.**
- some students include suggestions which are **not really appropriate.**



### An example of good work

**This answer gives sensible recommendations based on a critical evaluation of COMSOAL.**

“COMSOAL does not provide very practical information. It cannot recognize the sequence of activity, e.g ‘Make up box’ activity should be placed at the final station 7, but the data generated by COMSOAL show that it was positioned at station 3. Hence, COMSOAL should have an ‘Activity Recognition’ function that can enhance the efficiency of the product line.

Evaluating the practicality of COMSOAL

Suggestion of introducing a function to enhance efficiency

Evaluating the accuracy of COMSOAL

Besides, the result generated by the software is not always accurate because some of the tasks are duplicated [...] In order to calculate the actual line efficiency of the system, a step should be added to monitor the deletion of duplicated task [...]

Suggestion of introducing a step to avoid inaccuracy

## EXAMPLE 10

### ***“EXTENDED IDEAS”***

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The following is an example in the study of English language. The student has achieved “extended ideas” by making hypotheses.

Hypothesize	Propose an idea which can be used as a starting point for further study
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#### The Question

Conduct a study of one linguistic feature (lexical, syntactic, discourse). Write a report on the study.



#### What students commonly do

- Being unable to make a hypothesis for a study, they conduct studies similar to previous ones.



#### An example of good work

This student formulates a hypothesis which is based on the findings of some related studies.

“‘You know’ has been regarded as a linguistic hedging device and as women’s language (Lakoff, 1975) [...] It is believed by a number of researchers (Lakoff, 1975; Freed 1996) that women use ‘you know’ more often than men [...]

Lakoff and Freed only reported the use of ‘you know’ in the speech of American women and men. They point out ‘you know’ occurs predominantly in informal conversation. Since both the American and British have many similarities in their culture and language [...] I hypothesize that in informal conversation, both the British women and men use ‘you know’ as a linguistic hedging device and the British women use ‘you know’ more often than men.”

Referring to findings of previous studies

Making connection between previous studies & new area of study

Proposing an idea that can be used as a starting point for further study based on the findings of previous studies