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| The final section of a research report is called the Discussion. In this section, researchers can include a number of elements:   * Re-statement of the original purpose of the research * Review of the main research results * Discussion of how well the original research questions have been answered * Comparison with the results found by previous researchers * Possible explanations for the results * Discussion of the significance of the results * Limitations of the research * Recommendations for further study/practical applications of the research |

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| It is less easy to give instructions about how to write the Discussion section of a research report, compared to other sections, because the “rules” are less clear.  Discussion sections are influenced by the results/findings, methodology and topic of a research paper, and can be very different from one paper to another.  In this unit, it is only possible to give general guidelines. |



**Warm-up: Reading and Discussion**

Here are some results/findings from a number of (invented) research projects. Read the results and answer the questions that follow. Share your ideas with one or more classmates.

1. “In the interviews we conducted, we found that the male students tended to focus more on the social challenges of life in halls of residence than the female students did.”

*(Why do you think this might be the case?)*

1. “Although there were some differences between respondents’ views on the role of English at CityU, depending on whether they were studying Business or Engineering, there was general agreement that the change from Chinese Medium of Instruction (CMI) at many secondary schools to English Medium of Instruction (EMI) at CityU created challenges for Year 1 students.”

*(Why is this important?)*

1. “The level of stress associated with having a ‘tiger mom’ was generally lower for the students in our study than it was for the Chinese-American students interviewed by Qin, *et al* (2012).”

*(Why is this worth mentioning?)*

1. “In general, the respondents in our questionnaire stated that their greatest dissatisfaction with the AC1 canteen was overcrowding at peak times (12:00-1: 45 and 6:00-7:30).”

*(What are possible solutions to the problem of overcrowding?)*

Look at the box in the top-right corner of this page. How do the questions in a) - d) above match with the bullet point items in the box?

**Re-statement of Research Purpose**

**Task 1: Reading & Writing**

1. Re-read the “Statement of Purpose” from the Introduction to the sample research report you were given at the beginning of this course.

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| The purpose of this report is to investigate the reading habits of university students in Hong Kong. In particular, we aim to investigate how much time students spend reading both English and Chinese texts, for academic and non-academic purposes. It is also our goal to discover the reasons students read English texts, difficulties they face when reading English texts, and strategies they apply. |

1. Imagine that you writing the beginning of the Discussion section for this report. Work with a partner or partners to re-state the purpose. Remember that you should avoid repeating the exact words used in the Introduction. When you have finished, compare your re-statement with those written by other pair/groups.

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| **Writing Up Your Own Research**  Look at the “Statement of Purpose” you wrote for the Introduction to your research report. Work with your research partner[s] to re-state this purpose to begin your Discussion section.  Note:   1. You should try to avoid repeating the exact words from your Introduction. 2. Your re-statement should be shorter than your original Statement of Purpose – try to summarize. |

**Summarizing Findings and Discussing Significance**

**Task 2: Reading & Analysis**

**Pre-reading - Prediction**

You are going to read a short text, which is the first paragraph from the Discussion section of a research paper on the impact of class sizes in Hong Kong secondary schools. The researcher found that there were several benefits to smaller classes.

What do you think these benefits might include?

Read the passage to see how many of your predictions were correct.

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| The primary aim of this paper was to hear the student voice on the issue of whether class size is a mediating factor on their learning. This study has shown that the student voice can be a rich and powerful source of insight into curriculum innovation like class size reduction. Data from interviews and classroom observations found that reduced-size classes are more likely to promote crucial aspects of quality learning. For example, the smaller classes in this study appeared to alleviate students’ anxiety about learning subjects like English language, recognized as socially important. The smaller class contexts also appeared to promote greater student participation in the classroom and, importantly, foster greater support for learning from fellow students. Students reported that they enjoyed better relations with peers and their teachers in smaller classes. This study has found these factors to be more prevalent in the reduced-size classes than in the large ones and finds that all of them are mediated by class size. This offers a compelling explanation for increased learning in classes where size has been greatly reduced.  (Source: Harfitt, G. J. (2012). How class size reduction mediates secondary students' learning: Hearing the pupil voice. *Asia Pacific Education Review, 13*(2), 299-310.) |

Here is the same paragraph, in table form. What is the function of each sentence?

* Summary of a specific research finding (SRF) – 4 sentences
* Discussion of the significance of the research (Sig) – 2 sentences
* Re-statement of the original purpose of the research (OP) – 1 sentence
* Summary of the overall research findings (ORF) – 1 sentence

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| **Sentence** | **Function** |
| 1. The primary aim of this paper was to hear the student voice on the issue of whether class size is a mediating factor on their learning. |  |
| 1. This study has shown that the student voice can be a rich and powerful source of insight into curriculum innovation like class size reduction. |  |
| 1. Data from interviews and classroom observations found that reduced-size classes are more likely to promote crucial aspects of quality learning. |  |
| 1. For example, the smaller classes in this study appeared to alleviate students’ anxiety about learning subjects like English language, recognized as socially important. |  |
| 1. The smaller class contexts also appeared to promote greater student participation in the classroom and, importantly, foster greater support for learning from fellow students. |  |
| 1. Students reported that they enjoyed better relations with peers and their teachers in smaller classes. |  |
| 1. This study has found these factors to be more prevalent in the reduced-size classes than in the large ones and finds that all of them are mediated by class size. |  |
| 1. This offers a compelling explanation for increased learning in classes where size has been greatly reduced. |  |

**Task 3: Language Focus**

Look at the main verbs in each sentence of the paragraph. What verb forms are used? Can you work out why, in each case?

1. The primary aim of this paper **was** to hear the student voice…
2. This study **has shown** that the student voice can be…
3. Data from interviews and classroom observations **found** that…
4. For example, the smaller classes in this study **appeared** to…
5. The smaller class contexts also **appeared** to…
6. Students **reported** that…
7. This study **has found** these factors to be more prevalent…
8. This **offers** a compelling explanation for….



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| **Writing Up Your Own Research**  Work with your research partner[s] and write one paragraph to review your main research results and to explain the significance/importance of those results.  This can serve as an introductory paragraph for the Discussion. In the paragraphs that follow, you will analyse the results in more specific detail by doing one or more of the following:   * looking at each major finding in more depth * suggesting possible explanations * discussing the significance of each major finding |

**Relating Findings to Previous Research**

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| One of the purposes of a Discussion section is to comment on how your research results/findings help to **support**, **contradict** or **add to** previous studies on the same topic (or a related topic).  When you plan and write up your discussion, you will need to refer back to the sources you cited in your Introduction and comment on how the information you gathered from your questionnaires and interviews relates to what is contained in those sources. Among the possibilities are:   * your data confirms the ideas found in a source * your data contradicts the ideas from a source * your data adds to the discussion by providing a Hong Kong perspective/a student perspective/a CityU perspective, etc |

**Task 4: Reading & Discussion**

Read the passage below. It is the second paragraph of the Discussion we started to read in Task 2.

1. How many previous research papers does he refer to here?
2. In what ways does his research confirm, contradict or add to the findings of those researchers?

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| Many of these findings are also in line with the previously cited work of Finn et al. (2003), but it is the pupils’ elaboration on these answers which may provide the key to a better understanding of what possibly makes small better in terms of class size. In this paper, I have demonstrated how students perceive ‘class spirit’ or group cohesion as one of the characteristics of their small class environment. Such a finding has been suggested in previous studies of class size in western cultures where small classes were noted for their ‘groupness’ and community, but was derived primarily from teachers’ reports and not the students themselves (Wang and Finn 2000; Finn et al. 2003). Flowerdew (1998) concluded that group work can assist in the breakdown of cultural barriers that sometimes impede communication interaction in Asian classrooms. The present study has shown that as class numbers decline, students sense they benefit from being part of a single, more unified ‘group’ instead of the conflicting and individual ‘circles’ cited by students earlier.  (Source: Harfitt, G. J. (2012). How class size reduction mediates secondary students' learning: Hearing the pupil voice. *Asia Pacific Education Review, 13*(2), 299-310.) |



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| **Writing Up Your Own Research**  Work with your research partner[s] and discuss how your research findings relate to the sources you cited in your Introduction. Think about the possibilities mentioned in the “light bulb” box on the previous page of this unit.  Make notes on the relationships between the ideas from the sources and your findings. This may involve going to back to the sources to read them in more depth.  Write your notes up into full paragraphs. |

**Hedging**

The Discussion section of a research report is intended to provide possible explanations for:

* the significance of your results/findings
* the causes behind the opinions and attitudes of your questionnaire respondents and interviewees
* the relationship between your research and previous research

It is important to remember that you cannot always say that any of these explanations are 100% certain.

Look at the following text, and find examples of hedging.

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| Teachers in Asia have been stereotyped as authority figures by their students rather than as facilitators of  learning (Littlewood 2000), but in this study, the closer relations between students and teachers in the smaller  classes suggests that such a view may not hold true in small classes where the teacher is seen as being an integral part of the classroom learning community. This was evidenced by the students who sang a birthday song for their teacher and in the students’ comments on how their teacher ‘knew’ them better. It may also be that smaller classes in this study foster what Ting-Toomey (1994) referred to as the ‘we-identity’ in her analysis of group-oriented cultures.  (Source: Harfitt, 2012) |

**Task 5: Identifying Examples of Hedging**

Read the following. What hedging expressions can you find?

1. It seems reasonable to conclude that students who live in halls of residence tend to have a richer social life than those who live at home.

2. The difference in attitudes between science students and those who study marketing is possibly the result of the different types of assignments they are required to complete.

3. The findings of Qin *et al* (2012) differ from the data we received from students. This can partially be explained, perhaps, by the differences between US culture and life in Hong Kong.

4. The role of technology in the classroom is arguably the most important factor for students.

5. Female students generally preferred group work and discussions.

6. For the most part, our interviewees seemed to enjoy membership in student societies if they felt they had some control over how much time they could commit.



**Explaining Your Findings**

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| The Results section of your report tells the reader “here is **what** they said”. The Discussion section tells the reader “this is what we think it **means**, and **why** they said it”. |

**Task 6: Discussion and Writing**

Think back to the questionnaire you completed about your experience of the EAP 1 course.

Here are some findings from that questionnaire. With a partner, discuss these findings and think of possible explanations.

1. Students generally found that learning about citations was the most valuable part of the course.

2. While many students found in-class discussions to be useful and enjoyable, many others disagreed, and stated that they would have preferred less discussion.

3. Some students said that the grammar elements of the course were too easy, whereas some found this to be the most difficult part of the course.

4. When asked “What did we do too little of in the course?”, a number of students responded by saying “sleeping”.

Now, write your explanations. You should include hedging expressions, to show that you are aware that your explanations are not 100% certain.

**Limitations**

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| No research project can completely cover a topic. There is always more to be learned, and there may be problems encountered in the research process. Academic honesty involves admitting this, so that the reader knows you are aware of the limitations of your research. Stating limitations is not a weakness – it is a sign that you are a critical and curious thinker. |

**Task 7: Reading**

Read the following passage.

1. How many limitations does the author mention?

2. What expressions does she use to indicate that she is discussing limitations?

3. What examples of hedging can you find?

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| It would, however, be a mistake to conclude that these findings can be generalised for the whole of Hong Kong. The 30 students we interviewed were all from Band 1 schools, and their views may not reflect the views of students from Band 2 and 3 schools, or even the views of all Band 1 students. It should also be remembered that the interviews were conducted in English, and language skill could therefore have been a factor. The fact that the interviewers were teachers may also have influenced the answers given by students. Finally, the fact that the interviews were conducted in the weeks leading up to the DSE exam might also be significant, given that this is a time when students are generally feeling the most stress.  Because of technical difficulties, some recordings were inaudible. We have, therefore, only reported on 75% of the interviews we conducted, as we did not want to rely on memory to report the views of those students whose recordings could not be clearly heard. |

**Task 8: Brainstorming**

Work with your research partner[s]. Brainstorm as many limitations as you can think of which might make your project incomplete or flawed. Remember that the Discussion section can be a place to reflect on any ways in which your project could have been better, and so can “save” you by showing that you are aware of what may not have gone well in your questionnaire and/or interviews (which might make your Results section less strong that you would have preferred).

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| It may be useful to write about limitations early in your Discussion section. This gives you the opportunity to “get the limitations out of the way” and then begin the rest of your Discussion with “Despite these limitations, this research seems to indicate that…” |

**Implications and Recommendations**

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| Research projects generally conclude with a few paragraphs explaining:   * suggestions for further research * recommendations about action which can be taken in light of the research findings |

**Task 9: Reading**

Read the following texts. Which ones discuss:

* suggestions for further research?
* recommendations about action?

1. Having interviewed Band 1 students, it might be useful to conduct a similar set of interviews with Band 2 and 3 students, to see what similarities and differences there are in their views on this topic.

2. To enrich the data gathered in this project, follow-up interviews with employees would provide a more complete picture.

3. It might be helpful if CityU’s Student Development Services Office, on the basis of the findings presented here, increased the number of workshops they offer on the impact of internationalization.

4. The Transport Department should consider addressing these issues by providing a larger number of ramps for disabled passengers.

5. Continuing to track these students as they enter Years 2, 3 and 4 could provide interesting data.

6. The ELC might benefit from reading this report.

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| **Writing Up Your Own Research**  When you are planning your Discussion section, it will be helpful if you read the Discussion sections from published papers such as the ones cited in the material for this course. This will help you to see what sorts of information and ideas should be included in a Discussion, and the possible ways of organizing your Discussion. |