Answers

Chapter 4
ANSWERS TO GUIDED EXERCISE 4.1

TASK 1 /

Determine whether the following are, or are not, arguments. Identify (if present), the premise(s), conclusion, and linking word(s).

1. Jane Austen's character 'Emma' is young, rich, and bored.
   There is no argument here. It is simply a statement.

2. Because prisoners can learn from each other in prison, sending first time offenders to prison can actually increase reoffending rates.
   Claim: sending first time offenders to prison can actually increase reoffending rates
   Premise: prisoners can learn from each other in prison
   Link: Because

3. Given that there is a correlation between education levels and expectations of representative government, dictators attempt to deny their populations educational opportunities.
   Claim: dictators attempt to deny their populations educational opportunities
   Premise: there is a correlation between education levels and expectations of representative government
   Link: Given that

4. Individuals' actions are determined by social pressures, past behaviours, and instinct.
   There is no argument here. It may be turned into the claim of an argument, if we were to add premises and a link. However, alone it is simply a statement. It may be tempting to think of 'are determined by' as a link and so 'individual actions' as a claim. This is not accurate. We will explore why later in this chapter.

5. The template of a nation is determined by its actions during times of war, occupation, and threat. Therefore, studying only peaceful periods of its history is misleading.
   Claim: studying only peaceful periods of its history is misleading
   Premise: The template of a nation is determined by its actions during times of war, occupation, and threat
   Link: Therefore

6. The riverbank is no longer collapsing.
   Trees were planted where the soil was washing away.
   Claim: The riverbank is no longer collapsing
   Premise: Trees were planted where the soil was washing away
   Link: There is no link provided—it is implied. Without it, we could say that this is just two statements. For this to be an argument, we need to infer our own link. In this example, while we have presented the riverbank collapsing as the claim (the reason the riverbank is no longer collapsing is because of the trees planted), note that the reverse could also make sense. That is, the reason the trees have been planted is because the riverbank is no longer collapsing. This demonstrates the vital nature of the link— without it, as a reader we have to determine the claim for ourselves—and it might not be the claim the person intended.

TASK 2 /

Do first-year undergraduates cope well with their first semester of university?
Suggested answer (yours is likely to be different):
Many undergraduates do not cope well in their first semester at university [claim] *because* [link] *they can find the independent learning approach challenging* [premise] *and some struggle with living independently* [premise]*

LESSONS FROM GUIDED EXERCISE 4.1

The exercise in Task 1 should have uncovered some lessons.

- Lesson 1: Sometimes, an argument has not been presented.
- Lesson 2: It is sometimes difficult to distinguish a claim from a premise. This is especially the case when linking words are not used or are used in unexpected ways.
- Lesson 3: Given lessons 1 and 2, it is essential that we make the claim, the premise(s) and the link explicit in our own arguments. A claim without premises is simply a statement. A claim and a premise without a link may just be two statements. It is very important to remember this when we are asked to *develop an argument* either explicitly or implicitly in our university work.

ANSWERS TO GUIDED EXERCISE 4.2

Review the table below which provides a claim with an associated premise. Identify what is wrong with the premise from the three options (categorical; vague; appeals to emotion). Then improve the original premise, addressing the issue identified.

Claim	Original Premise	Issue: - categorical - vague - appeals to emotion	Improved Premise*
It is important to provide support for students.	All students are overwhelmed.	Categorical	Many students can feel overwhelmed.
Vote for the current mayor.	Voting for his opponent risks the life and safety of your children.	Appeals to emotion	The opponent has a policy to increase speed limits around schools, which risks the safety of children.
The public are wary of trusting politicians.	All politicians are corrupt.	Categorical	There is reported to be much corruption in politics.
Everyone should microchip their pet.	Society will benefit.	Vague	Fewer pets would be lost and pet owners would avoid worry and stress.
Cars should be banned in city centres.	They cause all sorts of disruptions.	Vague	Cars cause traffic jams and pollution, and are a threat to pedestrians.
You have a greater chance of a dry wedding if you marry in the south of France.	There is never nice weather in Scotland.	Categorical	The weather is unpredictable in Scotland.
Tree-felling without a permit is illegal.	Cuddly Koalas might suffer.	Appeals to emotion	Animals and insects may be using the trees for shelter.

*Note: you would need reliable evidence to support many of these improved premises.

ANSWERS TO GUIDED EXERCISE 4.3

TASK 1 /

Should primary school students be trained to use technology?
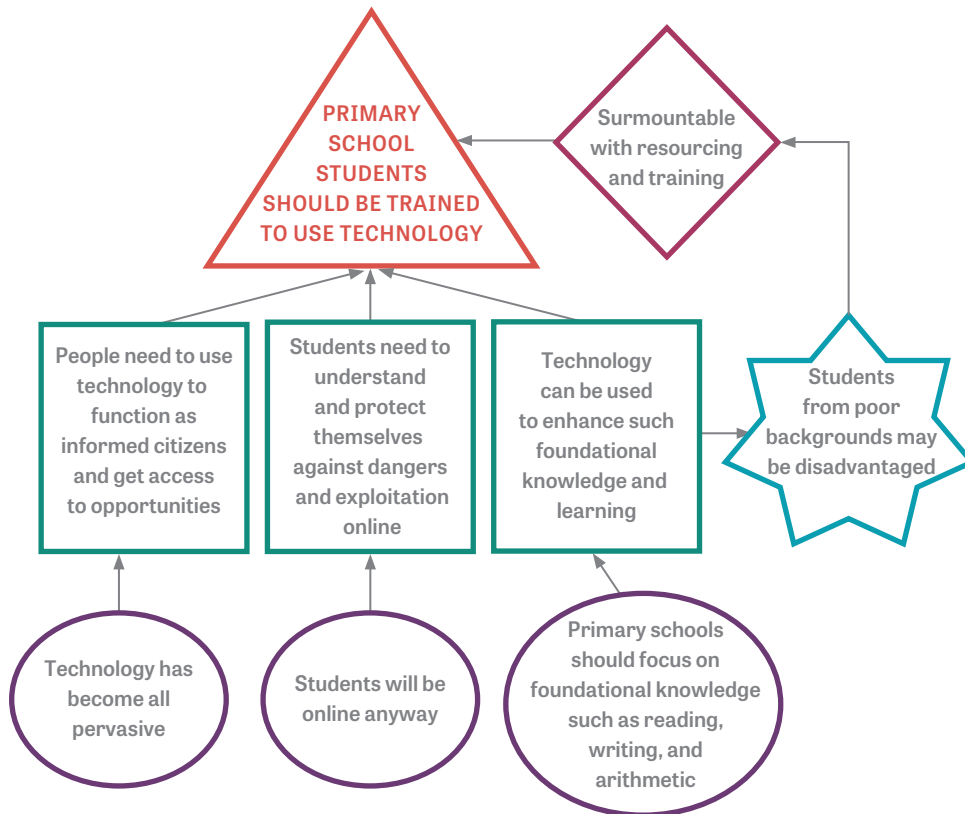
TASK 2 / Develop an Argument

Remember that the answer below is a suggestion. Yours will be different.

Should 16-year-olds be able to vote in national elections?

1. List likely claims.

STEP ONE: List likely claims	
16-year-olds should be able to vote in national elections	*16-year-olds should not be able to vote in national elections*

2. Brainstorm possible premises.

STEP TWO: Brainstorm possible premises	
16-year-olds should be able to vote in national elections . . .	*16-year-olds should not be able to vote in national elections . . .*
. . . because the future belongs to them.	. . . because they are not yet mature enough to make informed and reasoned decisions.
. . . because they are mature enough to make informed and reasoned decisions.	. . . because they are still in school and not yet adults and will be influenced by parents or school teachers.

3. Evaluate and improve the quality of premises.

'. . .because the future belongs to them' is a vague premise: '. . . they will be impacted by decisions made by politicians for decades, unlike very old people'

'. . . because they are still in school and not yet adults and will be influenced by parents or school teachers' is a categorical premise: '. . . because they are still in school and not yet adults and *may* be influenced by parents or school teachers'

4. Identify the primary issue.
Are they mature enough to make reasoned decisions?

5. Make your argument.
16 year-olds should not be able to vote in national elections because they are not yet mature enough to make informed and reasoned decisions.
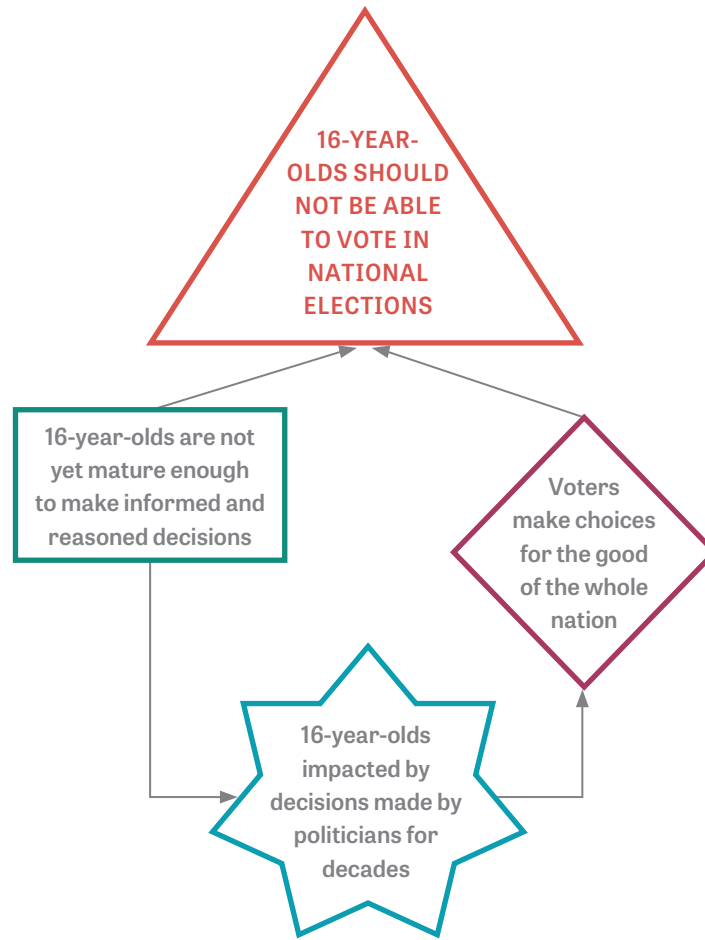
6. Add a counter argument.
While they will be impacted by decisions made by politicians for decades, unlike very old people, the democratic system is premised on the majority of voters making choices for the good of the whole nation (including children).

TASK 3 /

Full argument:

16 year-olds should not be able to vote in national elections [claim] *because* [link] *they are not yet mature enough to make informed and reasoned decisions* [premise]*. While they will be impacted by decisions made by politicians for decades, unlike very old people* [counter argument]*, the democratic system is premised on the majority of voters making choices for the good of the whole nation (including children)* [rebuttal]*.*

The argument map for the argument developed in Task 2 would look like this.

Chapter 5
ANSWERS TO GUIDED EXERCISE 5.1

Abraham Lincoln was shot on 14 April 1865.	Historical fact
Giraffes are herbivores.	Fact by discovery
Poverty is the greatest obstacle to progress in developing countries.	Other (factual claim, judgement/opinion, prejudice)
An American President can serve a maximum of two terms.	Fact by definition
All swans are white.	Fact by discovery (Note: an incorrect fact by discovery, as black swans were discovered in Western Australia, following European colonization. Before that, Europeans believed the 'fact' that swans were white to be true.)

Stress is caused by being overworked.	Other (factual claim, judgement/opinion, prejudice)
Human babies have a 9-month gestation period.	Fact by discovery
Napoleon was defeated at Waterloo because he made poor tactical decisions.	Other (factual claim, judgement/opinion, prejudice)
In 1978, China's economy was smaller than Belgium's.	This final example was intended to make you think carefully. Actually, it is an example where a 'fact' has elements of *both* definition and discovery. There are elements of definition here (how do we define 'the economy'? could we decide to change that definition?) as well as discovery (what data was discovered and relied on to assert this fact? could other data such as lost records emerge that changes this?)

ANSWERS TO GUIDED EXERCISE 5.2

MORE LIKELY TO BE CREDIBLE

C. Academic journal articles

E. Reputable organization report

D. Respected/established news media

A. Consultant/think tank/NGO report

LESS LIKELY TO BE CREDIBLE

B. Agenda-driven news media

The sources of evidence are listed here in order of credibility from least to most credible.

1. B. This article is from an Agenda-driven News Media organization. We can get hints of this given the amount of advertising on the website, and the use of sensationalist and celebrity-focused headlines. While the Duchess of Sussex has every right to have views on social media and young people, from a credibility perspective she doesn't have expertise in this area.

2. A. Looking at the website of the Centre for Mental Health, we can see that it is a UK-based charity. As such, it fits within the Consultant, Think tank, and NGO Reports category. Looking at the funders, we can see that there are many public bodies and so they bring their own credibility (e.g. as Reputable Organizations). Moreover, the report itself references a number of academic journal articles. This means that the report has very good credibility of its own given these factors. However, you could increase the credibility of your evidence by actually using the academic journal articles which are listed if possible.

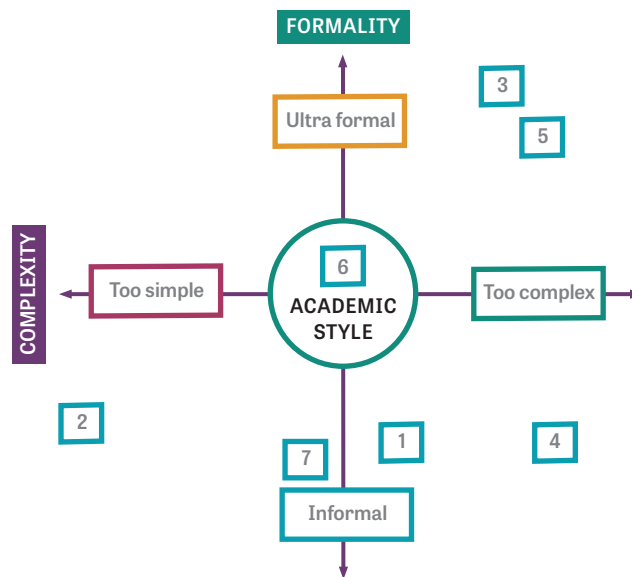3. D. This article is from a Respected and Established News Media organization—the BBC. This doesn't mean that the BBC hasn't got any agenda at all—in fact some believe it is biased in some ways. However, as news media go, it is one of the most credible and, overall, is considered very credible. Nevertheless, this article mentions a number of other studies, some of which are academic journal articles, and others are from Reputable Organizations (e.g. Unicef). As such, it would be better to use these more credible options than the BBC article if appropriate.

4. E. This is an official report from the UK government. It has been rigorously researched, and the Annexes include the evidence on which the report is based. As such, it is a Reputable Organization Report, and so is credible.

5. C. Checking *PLOS ONE* (the journal which published this academic article), we can see that this is an open-access (you don't need to pay to get access to the articles), multidisciplinary journal which, importantly, has a peer-review process before publication. This means that as a source of evidence this highly credible.

Chapter 6
ANSWERS TO GUIDED EXERCISE 6.1

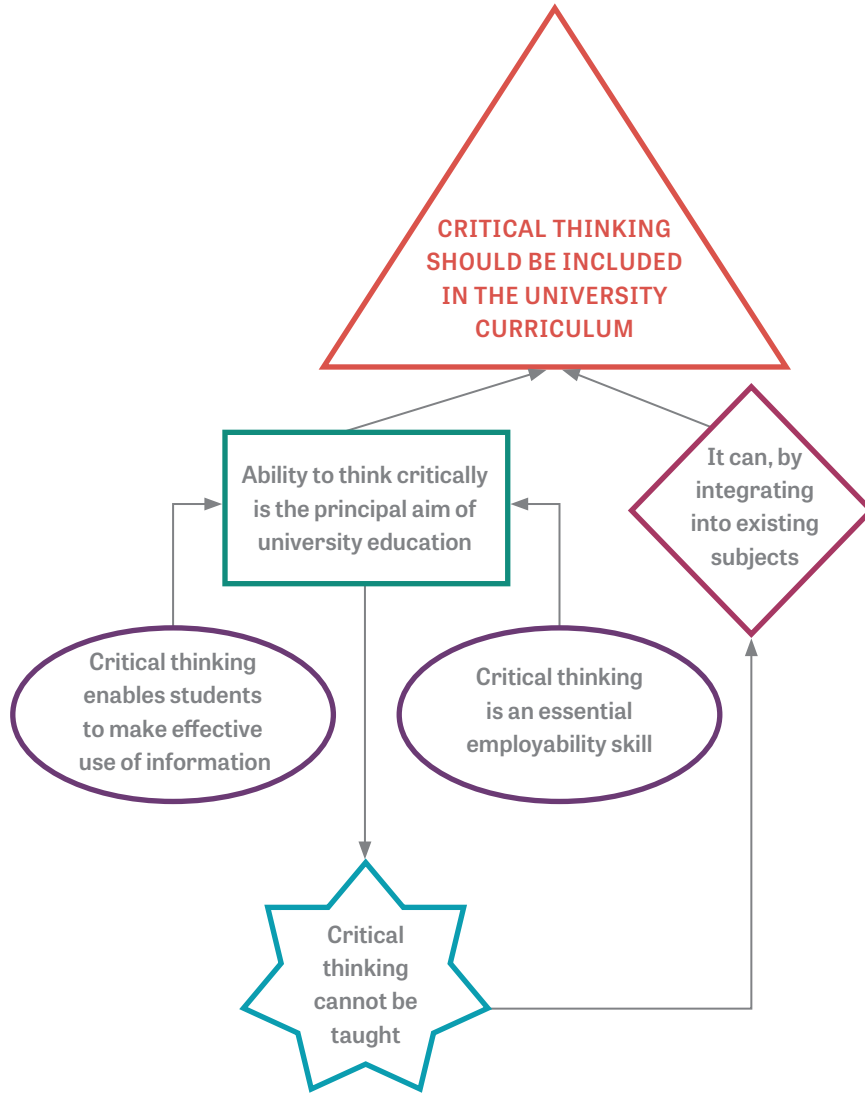**TASK 1 /** Place the sentences below on the Academic Writing Style diagram.

TASK 2 /

No.	Example	Complexity	Formality	Improved
1	The men in Jane Austen novels are always either stuck-up or idiots.	Mid	Low	The male characters in Jane Austen novels are often portrayed as arrogant or ignorant.
2	Now, lots of things can make you commit a crime.	Low	Low	Many factors contribute to a person committing a crime.
3	Democratic ideals, which have heretofore been examined, are put at risk at the moment the *vox populi* question the veracity and reliability of either the voting process or the outcome.	High	High	The democratic ideals we have explored here are put at risk when the general public question the reliability of either the voting process or outcome.
4	It's like when people think one thing but then act in a different way, and you don't know what they're going to do because will they do what they think or how they usually act?	High	Low	When people's beliefs are inconsistent with their behaviour, it can be difficult to predict what they will do. Will they act on their beliefs, or will they repeat past behaviours which have been inconsistent with these beliefs?
5	It is reasonable and legitimate to assume, therefore, that university exists in the context of society.	High	High	University exists in the context of society.
6	The history of white settlement of Australia has involved numerous cycles of different types of oppression of the aboriginal populations.	Mid	Mid	The history of white settlement of Australia has involved numerous cycles of different types of oppression of the aboriginal populations.
7	Due to the internet, information has been spreading like wildfire.	Mid	Low	Due to the internet, information has spread rapidly.

ANSWERS TO GUIDED EXERCISE 6.2

TASK 1 / You were asked to develop an argument map. There is no 'right' answer or 'correct' map. Here is one possible map. This map has been used to write an essay answering this question. Before you consult the sample essay, use this map and the evidence to write your own essay.

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                    CRITICAL THINKING
                    SHOULD BE INCLUDED
                    IN THE UNIVERSITY
                       CURRICULUM

   Ability to think critically              It can, by
    is the principal aim of                integrating
     university education                 into existing
                                             subjects

Critical thinking          Critical thinking
enables students           is an essential
to make effective         employability skill
use of information

              Critical
              thinking
            cannot be
              taught
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TASK 2 / This essay is based on the argument map from Task 1 and using the evidence provided in the book, while following the guidance for essay writing. It is just one of many possible variations of essays that could be written with the evidence provided, and even from the same argument map. Make sure you attempt this yourself, before reading the sample essay. In an assessed context you won't get the chance to read a sample answer first.

Evaluate the importance of teaching critical thinking in university curriculum.

STEP ONE: Introductory Paragraph

Why this is an important area: Increasingly, universities are considering teaching critical thinking in their core curriculum. While there is varying evidence as to the extent of this practice, some leading institutions such as the University of Edinburgh have done so (Ivory, 2018).

[Note: if we are going to say that an institution has done this, we need to provide evidence. While this evidence is a blog, which is unclear on our list of credibility (see Chapter 5), it is from an academic and, moreover, it is just asserting that something happened (i.e. it isn't an argument in itself). As such, the fact that it hasn't been peer-reviewed is acceptable.]

What specific question are you answering: This essay evaluates the importance of teaching critical thinking within a university degree's curriculum.

Define terms: Critical thinking is defined as the ability to 'identify the arguments on all sides of an issue, search for and use relevant data, and arrive in the end at carefully reasoned judgements' (Bok, 2008, 109).

What are your premises: We argue that critical thinking enables a student to make effective use of information and contributes to employability, and therefore is a principal aim of a university education. As such, it is vital to include it in the university curriculum. The essay also refutes arguments that critical thinking can't be 'taught'.

The outline of the rest of the essay: The essay now examines this argument in more detail, presenting supporting evidence, before concluding that critical thinking should be an essential element of university curriculum.

[Note: because of the detail in the preceding point, this 'outline' can be very broad. Nevertheless, it is still important to include it as a smooth link to the remainder of the essay.]

STEP TWO: Body

First 'Body' Paragraph

Topic Sentence: First, we consider the purpose of learning in a university context.

Evidence and Premise (Sub-Claim): The former president of Harvard University argues that 'merely accumulating information is of little value to students' (Bok, 2008, 109). Critical thinking enables students to make effective *use* of information and, as such, is a 'principal aim of undergraduate education' (Bok, 2008, 109).

[Note: in order to use only the evidence provided, we have referenced Bok twice here. In a real university essay, it would be much better to find further supporting references to demonstrate that this is a widely held view. Moreover, using just this reference is somewhat mollified by the credibility of the author, which is one of the reasons his position is specifically mentioned here. Did you research Bok to find out who he was and whether he was credible?]

Counter-argument and Rebuttal: While some questions have been raised as to whether critical thinking can be explicitly *taught*, Willingham (2007, 18) concludes that 'thinking critically should be taught in the context of subject matter'—that is, integrated *into* a subject rather than taught as a subject on its own.

Claim: As such, because thinking critically is a principal aim of undergraduate education, critical thinking should be included in the university curriculum, by including it in existing courses.

Link: Furthermore, there are wider considerations, in relation to the expectations on university graduates.

Second 'Body' Paragraph

Topic Sentence: Increasingly, the issue of graduate employability is becoming important.

Evidence and Premise (Sub-Claim): Governments and employers are expecting universities to enhance the skills that their graduates will have as they enter the workforce, with critical thinking identified specifically as a necessary skill to ensure career readiness (DBIS, 2016).

Claim: As such, because university graduates need critical thinking skills for employability, universities should include this in their curriculum.

STEP THREE: Concluding Paragraph

Restate Question: In this essay, we evaluated the importance of including critical thinking in a university curriculum.

Premises (sub-claims): We argued that it was a principal aim of an undergraduate education—in relation to both being able to effectively use information and improving employability. Moreover, teaching critical thinking relies on the integration of such skills *into* existing courses.

Main Claim: As such, we conclude that critical thinking is an essential element to include within university studies.

Full essay

Evaluate the importance of teaching critical thinking in university curriculum.

Increasingly, universities are considering teaching critical thinking in their core curriculum. While there is varying evidence as to the extent of this practice, some leading institutions such as the University of Edinburgh have done so (Ivory, 2018). This essay evaluates the importance of teaching critical thinking within a university degree's curriculum. Critical thinking is defined as the ability to 'identify the arguments on all sides of an issue, search for and use relevant data, and arrive in the end at carefully reasoned judgements' (Bok, 2008, 109). We argue that critical thinking enables a student to make effective use of information and contributes to employability, and therefore is a principal aim of a university education. As such, it is vital to include it in the university curriculum. The essay also refutes arguments that critical thinking can't be 'taught'. The essay now examines this argument in more detail, presenting supporting evidence, before concluding that critical thinking should be an essential element of the university curriculum.

First, we consider the purpose of learning in a university context. The former president of Harvard University argues that 'merely accumulating information is of little value to students' *(Bok, 2008, 109). Critical thinking enables students to make effective use of information and, as such, is a 'principal aim of undergraduate education' (Bok, 2008, 109). While some questions have been raised as to whether critical thinking can be explicitly taught, Willingham (2007, 18) concludes that 'thinking critically should be taught in the context of subject matter'—that is, integrated into a subject rather than taught as a subject on its own. As such, because thinking critically is a principal aim of undergraduate education, critical thinking should be included in the university curriculum, by including it in existing courses. Furthermore, there are wider considerations, in relation to the expectations on university graduates.*

Increasingly, the issue of graduate employability is becoming important. Governments and employers are expecting universities to enhance skills that their graduates will have as they enter the workforce, with critical thinking identified specifically as a necessary skill to ensure career readiness (DBIS, 2016). As such, because university graduates need critical thinking skills for employability, universities should include this in their curriculum.

In this essay, we evaluated the importance of including critical thinking in a university curriculum. We argued that it was a principal aim of an undergraduate education – in relation to both being able to effectively use information and improving employability. Moreover, teaching critical thinking relies on the integration of such skills into existing courses. As such, we conclude that critical thinking is an essential element to include within university studies.

REFERENCE LIST

Bok, D. (2008). *Our Underachieving Colleges: A candid look at how much students learn and why they should be learning more*. 8th edn, Princeton, NJ: Princeton University Press.

DBIS (2016). Success as a Knowledge Economy: Teaching Excellence, Social Mobility and Student Choice. Department of Business Innovation and Skills Report, UK Government, May.
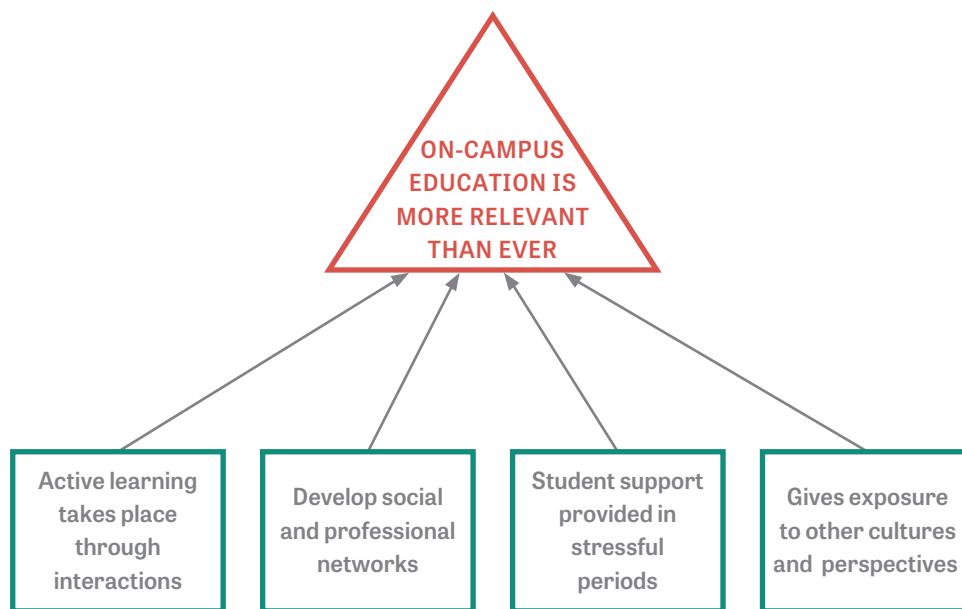
Ivory, S. (2018). Wherefore art thou undergraduate education? University of Edinburgh Teaching Matters Blog, 11 October, Available at http://www.teaching-matters-blog.ed.ac.uk/ wherefore-art-thouundergraduate-education/. Accessed 17 March 2020.

Willingham, D. (2007). Critical Thinking: Why Is It So Hard to Teach? *American Educator*, Summer.

ANSWERS TO GUIDED EXERCISE 6.3

TASK 1 /

TASK 2 / Introduction (Tell them what you're going to tell them)

One-minute script: Introduction

Today I have been asked to explore the relevance of 'On-campus' university education given the digital age. While technology has made distance-education more accessible, I will argue that on-campus education is more relevant than ever precisely because of the digital age. While there are 4 main premises to support my argument, this presentation will focus on just 2:

- *First, evidence shows that 'active learning' takes place through interactions with others and that this is essential to enhancing increasingly important skills such as critical thinking and problem solving.*
- *Second, on-campus education develops social and professional networks which provide ongoing support into graduate and adult life.*

Two further reasons which I won't explore in this presentation relate to student support which can be provided during stressful periods of study,

and the benefits of exposure to other cultures and perspectives that comes from on-campus interactions. I would be happy to answer questions on these topics after the presentation, but for now I will focus on the two main premises: active learning and networks.

TASK 3 / Conclusion (Tell them what you told them)

30-second script: Conclusion

This presentation explored the relevance of 'on-campus' university education given the digital age. I argued that two of the main reasons to undertake a university education—to develop skills such as critical thinking and to develop networks—require interactions with others which are achieved through on-campus education. Indeed, given the proliferation of information which can be accessed anywhere in the digital age, such benefits of university education become even more important when those without a university degree can access the raw information. As such, it is precisely because of the digital age that on-campus university education remains relevant. We appreciate the time you have taken to listen to our presentation and look forward to answering your questions.

Chapter 7

Answer to code in Section II, number 4: Transpose 'Writing is a key tool for thinking' using the letter/symbol immediately to the right on the qwerty keyboard.

ANSWERS TO GUIDED EXERCISE 7.1

TASK 1 / Copied exactly from the paragraph (yours will be hand written):

It is ending because individuals, companies, and governments are coming to the realization that its side effects are unsustainable.

What was your score (1–10) for thinking intensity?

TASK 2 / Summary of the paragraph. Yours is likely to be different:

Significant issues facing the entire world can be linked to globalization and the modern industrial era. This era is now ending because of the realization that these side effects are unsustainable.

What was your score (1–10) for thinking intensity?

TASK 3 / My views on the future of the industrial era. Yours will be different:

There is an idealism about this paragraph, associated with the fact that some in power (governments and dictators, extremely wealthy shareholders, business owners, and managers) are profiting from the current Industrial Age. As such, even though it may be 'unsustainable' and be contributing to these significant global issues, it may be in their interests to disregard this fact for as long as possible so that they can continue to profit and accumulate power. The question I guess I'm asking is, who controls the 'Age' we are in and will they let it end?

What was your score (1–10) for thinking intensity?

ANSWERS TO GUIDED EXERCISE 7.2

Chosen Topic: Online university studies

A reminder that below you will see some of my thoughts. Moreover, the 'success' of this exercise is not what is written here, but how the process of writing-to-think has contributed to improving my thinking on this topic and sparked inquiry, as well as contributed to my thinking abilities more generally. As such, the 'answers' here are not 'correct', but are provided to help with guidance on how to approach these tasks.

TASK 1 / Free write

There are a number of contributing factors to the increase in online learning as an addition or alternative to traditional, face-to-face,

on-campus university studies. Technology continues to develop at a rapid pace, making such teaching possible and overcoming some of the early and ongoing issues associated with it. This includes technology for developing the teaching (recording lectures, running 'live' tutorials, integrating real-time experiments and feedback, etc.) as well as the technology needed by the student (widespread computer access or ownership and necessary infrastructure such as high-speed internet). It enables teaching to continue despite a disruption which might be widespread (e.g. the global pandemic of 2020) or student specific (e.g. a family crisis or medical issues). It also enables teaching to be more inclusive, for example of those who can't afford to travel and live in a different city or country to attend university, or flexibility for those with caring responsibilities. But what is lost when we replace face-to-face and on-campus teaching? Much learning comes from engaged, face-to-face discussion and debate. This can be difficult to achieve online both from a technical perspective, but also because it is harder for tutors and lecturers who don't have a chance to develop a relationship with students, to understand them individually, and build their confidence and draw out their contribution throughout a semester. It can also be harder to identify students who are particularly struggling either with the work or with more personal issues, and who may need additional support. Students miss out on interactions with other colleagues academically (i.e. in discussion and debate), emotionally (losing the 'all in it together' mentality when they commiserate on poor marks or difficult topics), and socially (from the many and varied non-study aspects of university life). Where there is no option because of a global health crisis or lack of funding, online studies may have their place. But can they really replace the experience of university for an individual's transition to a higher level of debate, thinking, confidence, and social experience? Or is that just my bias as a non-technical native, out of touch with how young people integrate and experience technology and relationships into learning?

TASK 2 / Directed writing

STEP ONE: Questions

I have included a number of questions for each of the seven core questions. You might have done the same, or just asked the most pertinent question in each category.

1. Who takes online university studies? Who teaches them? Is it the same people who teach traditional university courses? Are the same skill sets required?

2. What constitutes online studies? What do they include and exclude? Are they the same across all online providers? Is there a scale from all face-to-face to all online, with some in between?

3. When did such online studies emerge? What factors made this possible? What factors made this necessary?

4. Where do such online studies emanate from? Traditional universities or dedicated online universities? Where do students undertake such studies?

5. How do online studies work? Is it the same as traditional face-to-face studies, just on a computer? Do online students have the same access and privileges as campus students?

6. Why are online studies offered? Why do students undertake them? Why doesn't everyone undertake online studies?

7. How could online studies change the way in which students experience university education? How could online studies disrupt the traditional dominant providers of university education? How should online studies be integrated or offered in addition to traditional studies to support marginalized global communities? How should they be supported to help widening participation programmes to support new generations of students into higher education such as first generation students, or those from deprived backgrounds? Should such studies

be supported by governments to contribute to social mobility?

STEP TWO: Thoughts

The free writing exercise above addressed a number of thoughts in relation to some of these questions. If I had not undertaken this free writing exercise, or if I wanted to develop thoughts further, I would now choose questions to explore. These questions may also provide an excellent prompt and springboard for research.

STEP THREE: Further questions

Some additional questions that occurred to me during my free writing exercise and while adapting the seven core questions are:

- Is there tension between traditional university providers and online university providers?
- Does one hold higher credibility than another? Is this changing?
- How much does it cost to develop online university studies? What investments need to be made upfront?
- What is the variation in quality of online university teaching?
- To what extent can online and traditional teaching be integrated? To what extent should they be integrated?
- Am I exhibiting subconscious bias because my current role focuses on face-to-face, on-campus teaching? (Note: this question, and the final part of the free writing, is attempting to uncover the biases that may be influencing my thinking and open my mind to other possibilities.)

Chapter 8
ANSWERS TO GUIDED EXERCISE 8.1

Here are some suggested answers to this task. Remember, these aren't the 'right' answers and yours are likely to be different.

TASK 1 / See and comprehend this text

This task probably just involved you reading the text. You may have used a dictionary for some words (e.g. 'empirical', 'typology'). You may have written notes here, but take care not to overdo the summary. See the section on note-taking in this chapter.

TASK 2 / Analyse this text

- Transition to higher education is important to the economy.
- Transition is more difficult now because of a more diverse and larger student body.
- We know a lot about transitions to higher education, including Nicholson's model.
- Failed transitions to higher education cause problems.

TASK 3 / Interpreting this text

We can use past research and theories to understand the challenges of students' transitions to higher education, which are increasingly significant and problematic.

TASK 4 / Evaluating this text

The authors of this text are all academics at credible universities, with expertise in this area. The text is from an edited academic book. As such this a credible academic source. It directly addresses our topic on improving transitions by proposing a model we can use. As such, this is a useful source.

ANSWERS TO GUIDED EXERCISE 8.2

TASK 1 / Context

'Failure' is increasingly recognized as a key to learning, and gains attention because much teaching design and culture stigmatizes failure as 'wrong' or 'bad'. These three readings all explore the importance of failure in relation to learning.

TASK 2 / Breadth

Reading citation	Hilppöa, J. and Stevens, R. (2020). 'Failure is just another try': Re-framing failure in school through the FUSE studio approach, *International Journal of Educational Research*, 99.	Eyler, J. (2018). Extract from Failure. In: *How Humans Learn*, West Virginia University Press, Full chapter pp. 171-217, Extract only pp. 171–3.	Bennett, J. (2017). On Campus, Failure Is on the Syllabus. *New York Times*, 24 June.
Topic	How failure can be framed in a school context	Failure as a pathway to learning	Normalizing 'failure' on university campus
Year	2020	2018	2017
Author(s) detail	University academics. Experts in field of educational research.	University academic. Director of the Centre for Teaching Excellence at Rice University (USA) at time of book publishing. Since moved to be Director of Faculty Development at University of Mississippi (USA).	Journalist.
Situate in field	Learning requires trying. Trying is avoided if failure is framed as 'bad'. Recent research looking at how to reframe.	Book on the 'science' of learning. Just 5 chapters exploring how humans learn: Curiosity, Sociality, Emotion, Authenticity, and Failure. This points to the importance of failure in learning.	Explore examples of universities incorporating 'failure' into curriculum, and impact on students.
Source: type and credibility	Peer-reviewed journal article: highly credible.	Book chapter extract from academic book: highly credible.[1]	Newspaper article: likely credible.[2] The reporter herself has a long and impressive career, pointing to her own credibility.
Intended audience	Academics, especially researchers in this area.	University-level faculty (e.g. lecturers, professors) involved in teaching	*New York Times* readers
Purpose of reading	Outline latest research to test new approaches.	Explain fundamentals to understand failure and emphasize importance.	Explore examples to demonstrate breadth of issue (and responses).

Keywords	Failure Learning Framing[3]	Failure Course design Failure spectrum	Failure Failure-deprived Resilience
Key arguments	Framing of failure creates stigma. Means failure is avoided: impacts learning.	Collective gains from failures lead to success. University course designs that allow for failure will contribute to more effective learning. Many, however, are structured so failure is negative.	Everyone fails sometimes, and we need to 'destigmatize failure'. Many universities are offering formal programmes linked to this aim, in part linked to the resilience push.
Evidence referenced	Primary research study of a FUSE studio (alternative learning infrastructure in schools) for 5th and 6th graders in US schools. Ethnography and interviews with studio facilitator and students.	Anecdotes as evidence (author's own past experience). Judgement/opinion provided by Lahey (from her book *The Gift of Failure*).[4]	Many examples provided as evidence (e.g. Smith College 'Failing Well', Stanford 'Resilience Project', Harvard 'Success-Failure Project') Statistics presented (64% get B-minus or lower) but not referenced. What is source?[5]

Explanatory notes to the table:

[1] While this isn't a textbook per se, it is a book written by an expert academic. Note his tone (using 'I' and personal stories) reflects this more as an examination of his own views and experience on the topic. However, given his expertise in the area, we can consider this highly credible.

[2] The *New York Times* can be considered a 'Reputable/well-respected news media organization'. Recall from our chapter *Strength of Evidence*, this is listed as 'Potentially credible: query vested interest'. Given the topic of this story is not particularly political or controversial, we can assess this as likely credible.
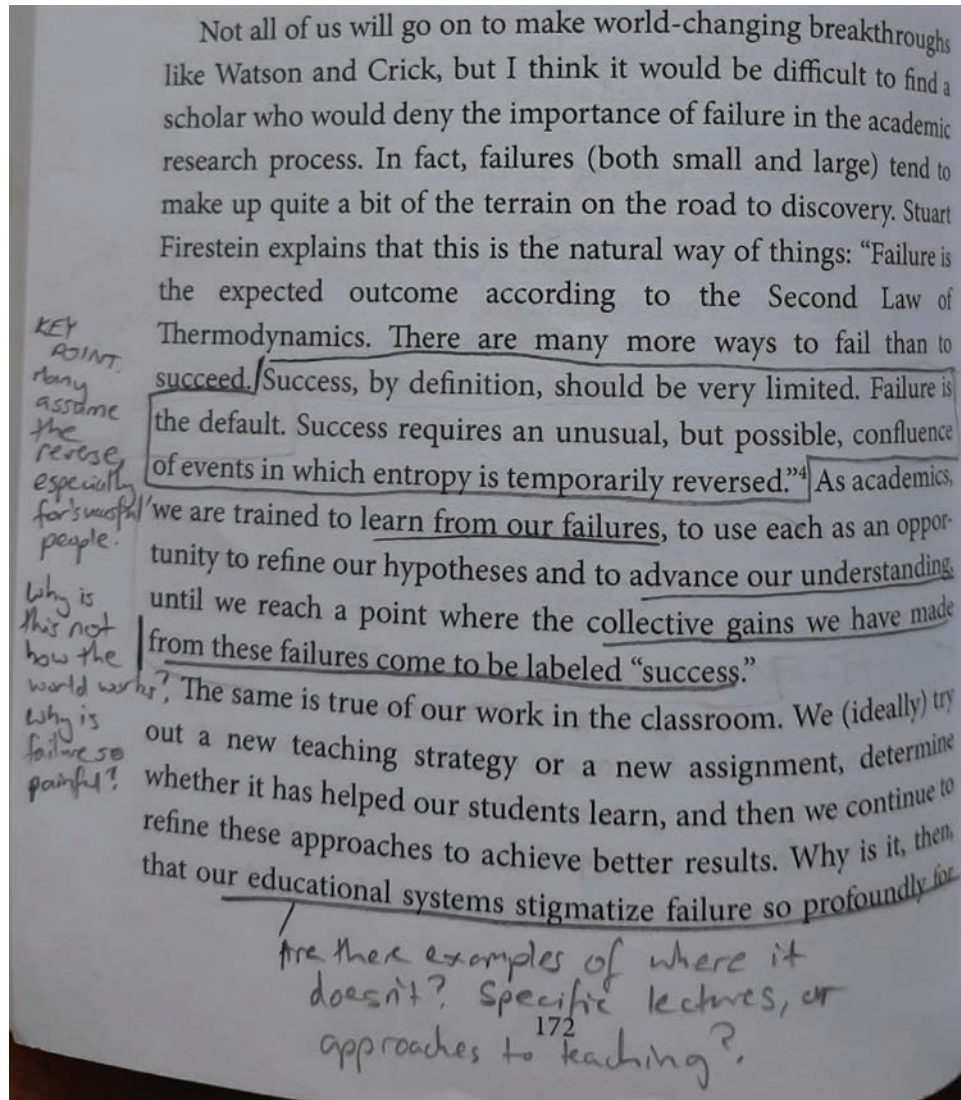
[3] Keywords are provided on the first page of the article itself. These can be useful, but can also be too broad, too narrow, or irrelevant for our focus. For example, 'ethnography' refers to the research method, which is not what we are interested in, in relation to this paper.

[4] Lahey is not a university academic, however she is an experienced teacher. Her book is really a parenting book, however it is directly relevant to the topic we are studying. Moreover, it has been very well received. While popularity doesn't necessarily equal credibility, in this case her experience points to her expertise and so the credibility of her judgement/opinion, which is offered by Eyler in his book.

[5] If we were using this article for an essay and we wanted to use this statistic, we could quote it using the article as the reference (Bennett, 2017). However, it is pretty obvious that this number isn't from the journalist herself. As such, I would hesitate in doing so, and look for a 'primary' or at least an academic source for such statistics. Note that if this were an academic source, this statistic would have had a reference.

TASK 3 / Depth

I used the Eyler chapter excerpt to study in depth. Below you will see the actual notes I took on the text.

Not all of us will go on to make world-changing breakthroughs like Watson and Crick, but I think it would be difficult to find a scholar who would deny the importance of failure in the academic research process. In fact, failures (both small and large) tend to make up quite a bit of the terrain on the road to discovery. Stuart Firestein explains that this is the natural way of things: "Failure is the expected outcome according to the Second Law of Thermodynamics. There are many more ways to fail than to succeed. Success, by definition, should be very limited. Failure is the default. Success requires an unusual, but possible, confluence of events in which entropy is temporarily reversed."[4] As academics, we are trained to learn from our failures, to use each as an opportunity to refine our hypotheses and to advance our understanding, until we reach a point where the collective gains we have made from these failures come to be labeled "success." The same is true of our work in the classroom. We (ideally) try out a new teaching strategy or a new assignment, determine whether it has helped our students learn, and then we continue to refine these approaches to achieve better results. Why is it, then, that our educational systems stigmatize failure so profoundly for

Handwritten margin notes:

KEY POINT. Many assume the reverse, especially for's unoful people.

Why is this not how the world works?

Why is failure so painful?

Are there examples of where it doesn't? Specific lectures, or approaches to teaching?

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Failure

students themselves? We ask students to take high-stakes exams where the consequences for error are serious. We often design courses that privilege correct answers rather than exploration and discovery. We rarely give our students feedback on assignments for which we are not providing a grade. All of this is understandable, given the history of educational systems and the limits on our time, but these strategies do very little to decrease the negative view of errors and mistakes.

The tone is set early too. The prioritization of grades and correctness begins when children are very young. Errors are viewed as something students must target and eliminate. But this doesn't have to be the case. In her powerful book *The Gift of Failure*, Jessica Lahey describes a way to flip this script in elementary and secondary schools: "Failure is too often characterized as a negative: an F in math or a suspension from school. However, all sorts of disappointments, rejections, corrections, and criticisms are small failures, all opportunities in disguise, valuable gifts misidentified as tragedy."[5]

Lahey is right, and I think we can pick up on her cue in higher education. There is a great deal of research coming out now that is showing us how valuable failures can be for our students' learning. Much of it leads to one, solid conclusion: if we design courses that provide students with opportunities to fail when the stakes are low and then give them the support and guidance to gain understanding from these instances, we are creating environments where students can learn more effectively. Thinking of our courses in this way, though, requires something of a paradigm shift. Of all the subjects I cover between the many pages you have now graciously made your way through, this one has been the hardest to wrap my mind around. As a student, I was certainly never rewarded for my failures, and no one mentioned the value of failure to me when I was training as a teaching assistant in graduate school. I may even

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be guilty of creating some assignments and exams in the past that have prioritized correct answers rather than giving students the space to make meaning from their errors.

Yet here we are. The research is clear, and the classroom interventions developed from this research show demonstrable gains for students. So how, then, do we begin to build failure into our teaching? First, I want to clarify exactly what I mean by failure. For the purposes of this chapter, we should envision student failure as a spectrum that begins with small errors like inaccurate calculations and extends to significant conceptual misunderstandings that impede a student's ability to build knowledge. To some degree, these cognitive failures will also relate to poor performance or low grades, but we need not view failure exclusively in these terms. Some miscues begin long before we give any assignment and, likewise, some continue long after students have left our classrooms.

For our first step in building pedagogies of failure, we probably need to understand a bit about why, as a species, we are so prone to error in the first place.

Handwritten margin notes:
Important, but can we classify better?
Link to foundational knowledge → impact of failure if not corrected

TASK 4 / Depth—Sum-up your thoughts

This comes both from the breadth table and the depth text (just one in this case, but if I had read more in depth, the 'Sum-up' would bring all of them together):

- Failure is stigmatized from early education through to university as something that is 'bad' or 'wrong'. As such, many try to avoid it.
- The collective gains from failures are what leads to success.
- As such, by avoiding failure, students are limiting their opportunity for success.
- University course designs are often complicit in this: not leaving room for failure as learning. Are there examples of systems that don't do this? Either whole systems (Nordic countries? They are often held up as examples of educational success. What is their approach to failure?) or specific initiatives (e.g. the FUSE project from the Hilppoa and Stevens article?) I have only currently skimmed that article but could read in depth to check this.
- Moreover, failures are the default state—it is success that is rare. Why doesn't it feel like this? Is it because we see 'successful' people and only hear about their 'successes'? Why does failure feel so painful? How can this be addressed?
- In relation to addressing this, there are widespread efforts both to destigmatize and normalize failure (examples in the Bennett articles), and also to develop alternative learning approaches and course designs which contribute

to more effective learning by encouraging failure as learning.

- This isn't necessarily the *fault* of faculty—with limited time and working within educational structures requiring assessment. So is the problem not the exam per se, but that this is the main or only assessment?

- Exams are still likely to be important to test that foundational knowledge has been gained, aren't they? Is this the purpose of exams? After all, Eyler states that 'significant conceptual misunderstandings . . . impede a student's ability to build knowledge'. So presumably this sort of 'failure' is acceptable, so long as it is corrected. Otherwise, it could have significant impacts on future learning.

- Key quote: 'if we design courses that provide students with opportunities to fail when the stakes are low and then give them the support and guidance to gain understanding from these instances, we are creating environments where students can learn more effectively' (p. 173). [Note: I singled out this quote partly because it felt like it was covering many of the issues of all the readings, but also, because of the clear language signpost before it in the text. Can you see what this is?

- 'Failure' could be a spectrum. How could we use this conceptualization to help with destigmatization? Could we classify this spectrum better? Has anyone else done this? Could this come later in this chapter?

Chapter 11
ANSWERS TO GUIDED EXERCISE 11.2

TASK 1 / Prepare

Suspend judgement and ego:
What judgements and ego did you acknowledge and suspend? Perhaps related to your own lifestyle or choices? Or your views on the value of university (as a university student yourself)? In relation to the topic, I made sure not to assume or judge that university is inherently 'good' or 'bad', or that high school students are inherently 'right' or 'wrong' for

university. I also acknowledged to myself that as a university graduate (and now university lecturer), I might assume that only the highest achieving students have the right to, or the ability to, attend university (because this describes myself).

Reject the obvious:
This might go either way depending on your view. It might be obvious to you that the implication of everyone going to university would be positive for society, or obvious that it would be negative. It might be obvious that with the right resources this could be achieved, or obvious to you that logistically this is not feasible. Whatever was immediately obvious to you, reject it (for now). It is obvious to me that university is not 'right' for everyone and that the implications of this would potentially be a reduction in the value of university. As this was my obvious response, I rejected it (for now).

Declutter the mind:
Did you turn off your phone and computer (or Wi-Fi) to undertake this thinking session? Did you set a timer if you needed to be somewhere after the session? Did you undertake a meditation or mindfulness exercise? I completed these answers in an early morning session before I turned on my phone and computer for the day, and before my kids were awake. Before starting, I did a brief mindfulness exercise. I find it easier to undertake thinking sessions at this time of day because my mind hasn't started processing all of my day's to do list.

TASK 2 / Undertake

This was my thinking session. Some of my thoughts are recorded in Task 3.

TASK 3 / Record

What would be the impact if everyone who finished secondary school was required to then attend university?

Recording your thoughts can be stream of consciousness or categorized. I have demonstrated both briefly below. Note that your thoughts, record, and notes may be much longer that what I have provided here.

Stream of consciousness approach

Impact for whom? For society we would have more university graduates. But is that necessarily good? It would delay a number of people entering the workforce into vital jobs which are essential to the economy, provide satisfaction to individuals, or provide them with wages which they spend on other parts of their lives to achieve happiness. In that way it could devalue jobs which don't require university studies even more than they already are. Should we force everyone to add another 3 years (at least) of study to the current legislated study? What happens when you change something from being a choice for people, to being mandated by government? Does it change the perceived value of that to the individual? Does it change how they would approach it? Thinking at this individual level, what would be the impact of requiring someone to continue with academic study if this was not their interest or passion? In particular, this is the time when young people are becoming adults. Don't we allow adults to make their own choices? I guess we don't completely—you can't choose to murder someone. But this isn't about denying someone else life (or liberty). It is about how we as a society control the lives and choices of adults. What would be the purpose even of such a requirement? Presumably it would be in place to have some benefit somewhere to someone. Who would be the (targeted) beneficiaries? Society as a whole? The individuals who otherwise wouldn't have attended university? Universities themselves? What would be the impact on universities? Who will pay for this and do we even have capacity to achieve this? They might get a more diverse range of students, but they are already trying to achieve this not by mandating everyone attends but by removing the barriers (real and perceived) to those who want to attend but struggle to get through the acceptance process. Isn't this a better approach to achieve this diversity? But there will still be people who slip through the cracks—who would have benefited from and enjoyed university but didn't attend for any number of reasons. So this comes back to the purpose

of such a requirement. The impact on university could be considered from another perspective. If they have a large proportion of students who are required to attend but don't want to be there, would that change their approach to teaching? The learning dynamic for those who do want to attend? Isn't this already a problem anyway with students going to university but not attending lectures and tutorials? We've considered the impact on society, on the individual and on universities. Are there any other groups who would be impacted that we didn't consider? Would it change the approach of secondary schools? Would it even make secondary school less of a 'right of passage' and a spring board into adulthood?

Categorized approach

Impacts
Society:
- more graduates—good or bad?
- delay people entering workforce
- devalue non-graduate roles further

Individuals:
- denying choice may be especially important perhaps as it is at the point of becoming an adult
- allows those who 'slip through cracks' a chance to attend university where the current system denies that opportunity
- prioritizing 'thought' and 'skilled' professions, over those who just work to earn— marginalizing them
- changed attitude to university as no longer a choice

Universities:
- logistically and from a funding perspective incredibly difficult
- may create more issues (already a problem in some places) of attendance and commitment to studying

Secondary schools:
- impacts their role as spring board into adulthood
- may change teaching at schools