

The Six Sentence Argument: A Versatile Exercise to Train Critical Thinking Skills

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Abstract

The six sentence argument (6SA) is a critical thinking exercise that can be easily integrated into existing curricula. We present students with a case and ask them to argue for their preferred course of action using exactly six sentences. Through a guided peer review component, students engage critically with other students' writings and receive detailed feedback on their arguments. This exercise helps students learn to craft brief, convincing arguments and to reflect on their reasoning in a format that can also be applied in many practical situations. The 6SA works well for undergraduate classes, and can also be used to prepare a case discussion at graduate level. Due to the peer review element, the exercise can be scaled up to accommodate large classes with little additional work for the teacher.

Keywords

critical thinking; peer review; online learning; argument; decision; writing; moodle

Introduction

Critical thinking is a fundamental skill and an important learning goal across all academic subjects. It has deep roots in philosophical thought (Dewey, 1910) and is widely recognized as one of the hallmarks of high quality education (Ennis, 1996; Glaser, 1941). In recent years, many authors have highlighted the importance of emphasizing critical thinking in management education (Athanassiou, McNett, & Harvey, 2003; Burke & Rau, 2010; Lovelace, Eggers, & Dyck, 2016). Managers frequently face problems to which there are no text book answers, and they must form opinions and decide what to do. Critical thinking is about making good decisions (Ennis, 1996), therefore it is crucial that it be taught in management education.

Many educators believe students will naturally pick up critical thinking skills as they work through the content that is presented and discussed in their general studies, a belief that is challenged by teaching experts (Fisher, 2011). For example, when students write essays for class, there is usually not enough time to give feedback regarding the essay's content as well as a student's critical thinking skills. While we found excellent textbooks about critical thinking (Ennis, 1996; Fisher, 2011), they are geared towards a stand-alone course on critical thinking and would add a lot of content to a course with a different subject matter. Unfortunately, we could not find suitable exercises that allowed us to systematically develop students' critical thinking skills *and* convey our course content at the same time.

To fill this gap, we developed the six sentence argument (6SA). The 6SA is designed to make the reasoning behind decisions obvious and accessible for analysis. The learning objective is to be able to reflect on decisions and to justify them with a short, convincing argument that could also be used in practice, such as in an email or a meeting. The exercise is geared mainly towards large undergraduate courses, and it is particularly useful when students have

heterogeneous levels of skill in terms of crafting a succinct argument. Yet, the exercise makes also for a good assignment prior to a case discussion at the graduate level.

Our approach to critical thinking

Critical thinking has been defined in many different ways (Lovelace et al., 2016). We have adopted the definition by Ennis (1996, p. 10), which states that critical thinking is “reasonable, reflective thinking focused on deciding what to believe or what to do”. Critical thinking can be broken down into different skills, such as evaluating sources, formulating arguments, drawing inferences, questioning assumptions, and self-reflection (Ennis, 1996; Fisher, 2011). Covering all of those skills, however, would require significant instruction time and defeat the purpose of having a versatile exercise that is easily incorporated into existing course content. Thus, our exercise is focused on teaching both the ability to formulate a convincing argument and the ability to reflect on one’s own and other’s arguments.

The 6SA exercise proceeds in two steps. In the first, students write an argument following a template, and in the second, the argument is evaluated in a peer review process. The template makes the step-by-step reasoning process visible and gives students concrete guidance on how to organize their thinking. The peer review process allows students to reflect on their peers’ reasoning, as well as to receive detailed feedback on their own reasoning. In the following sections, we explain the structure of the 6SA and the peer review process.

The structure of a six sentence argument

The 6SA attempts to convince a critical reader to follow a certain course of action in the context of a case. We present students with cases that either require them to take a position or to suggest one action from two or more possible choices. There is usually not one correct answer, and the case should be sufficiently rich and detailed to give rise to a number of viable

alternatives. Ideally, the case speaks to concepts or frameworks that are taught in the course, allowing students to apply knowledge from the lecture to identify their positions. The case also specifies the role that the writer has to assume the audience that the writer has to address to create a realistic and concrete situation.

A 6SA is a mini-essay of six sentences that conveys one statement, supports it with one reason, and heads off one important challenge. The structure of a 6SA is strictly pre-defined and based on Toulmin's (1958) theory of convincing arguments. Each sentence fulfills a specific function within the whole argument and may not exceed 20 words in length. By adhering to the pre-defined template, students learn to organize their thoughts along the structure of an argument. The word limit requires them to focus the points they want to make in each sentence and to carefully think about the wording. By following the structure, students learn to organize their thoughts in the different elements that make up an argument. The pre-defined template also greatly facilitates comparison of different arguments later during the peer review.

1. Introduction

The **introduction** presents the topic of the text. It guides the reader to the decision situation of the case and sets the horizon of positions that one might take in this situation.

2. Position

In the **position**, the author states which course of action she or he prefers and will argue for. This position can be freely chosen, as long as it remains within the introduction's horizon.

3. Reason

The author presents a **reason** that supports the stated position. Given that the author can only present one reason, the author needs to decide which reason is most valid and important.

4. Challenge

In the **challenge**, the author anticipates a point of criticism that a reader might voice concerning the reason. The idea is to strengthen the argument by preempting criticism.

5. Rebuttal

The **rebuttal** provides an answer to the challenge, for example by limiting the position to certain cases. The purpose of the rebuttal is to inform the reader that the author has identified and weighed the pros and cons of the position.

6. Conclusion

The **conclusion** sums up the argument and states the result of the author's reasoning. It should rest firmly on the previous sentences and avoid introducing new information.

Example: fossil fuel divestment

Our course on corporate sustainability presents students with a case in which a national pension fund (PUBLICA) needs to respond to activists calling for fossil fuel divestment. Students assume the role of one of the members of the pension fund's investment committee and present their stances for or against the divestment of fossil fuel assets to their colleagues. The following paragraph illustrates a student's response to this decision scenario, written in the 6SA format.

(1) In the context of climate change, PUBLICA and other investors are called on to divest from fossil fuel companies. (2) I believe that PUBLICA should not divest from fossil fuel companies. (3) Divestment has no proven impact on the viability of fossil fuel companies and therefore does not influence global CO₂ emissions. (4) Of course, divestment delegitimizes the fossil fuel industry and may pave the way for political reform that effectively curbs emissions. (5) However, PUBLICA lacks democratic oversight and does not have the mandate to influence

politics. (6) Therefore, I argue that PUBLICA should stay out of politics, and stay in fossil fuel investments.

The peer review process

In the second step of the exercise, each student conducts two anonymous peer reviews of 6SAs written by other students. The reviews are guided by grading criteria, which ensure a detailed assessment and require reviewers to carefully retrace the author's line of argument. Every sentence can be awarded one point for fulfilling its formal function in the argument, and a second point for the quality with which it performs this function. The detailed grading criteria is provided in Appendix A, and a complete example of a 6SA case, including a student's response and its peer assessment, are presented in Appendix B.

The peer review process sends participants through three loops of reflection. First, understanding how others have argued, possibly for a different course of action, provides a comparison for one's own thinking. Second, evaluating peers' arguments against the detailed grading criteria requires careful reading and assessment of every part of those arguments. And third, receiving peer evaluations provides detailed feedback on how one's own argumentation has been received by others. Through these loops of reflections, students learn to spot the strengths and weaknesses in arguments and develop a tendency to reflect on their own decision making. This *thinking about thinking* is the second critical thinking skill we aim to train.

To implement the peer review, we assigned reviews anonymously through an electronic learning platform (moodle), but it is also possible to do this physically or via email for small groups. It is important to clearly communicate deadlines for the submission of the 6SA texts, the beginning of the review, and the submission of the reviews in order to synchronize the two steps of the exercise.

A convenient result of the peer review is that it generates grades that can be used for assessment. The average grade between two anonymous peer reviews is a reliable performance measure, assuming the two reviews give similar grades. When the two peer reviews differ dramatically (by more than three points), instructors should conduct an additional assessment.

Debriefing

For debriefing, we present an overview graph that shows how many students argued for which of the different courses of action. We also present the most accomplished 6SA texts and explain why we found them convincing. From there, one might either start a more in-depth discussion of the case, or reflect on the students' experiences with the 6SA exercise.

One way to start reflecting on the critical thinking aspect of the exercise is to ask whether students felt the 6SA structure improved their thinking. Many students find it difficult to fit their thoughts into the six sentence structure, but realize that they gain focus and become more flexible thinkers once they master the format. Some students can be disheartened by negative feedback. It is thus important to encourage students to be precise, but always kind and constructive, in their reviews.

Another primer is to ask whether someone changed her or his initial opinion during the exercise. Some students grow much more confident about their opinions as they craft their arguments, while others reveal that they simply argued whichever way seemed easier. This is a good opportunity to highlight that the purpose of critical thinking is not to justify pre-existing positions with smart language. The purpose of critical thinking, and of the 6SA exercise, is to become better at identifying and articulating a position that convinces your audience and yourself.

Summary

We have presented a critical thinking exercise, which uses a pre-defined argument structure and a peer review process to help students develop the critical thinking skills necessary to craft a convincing argument and reflect on one's thinking. Instructors of courses that rely implicitly on students' critical thinking skills can use the 6SA exercise to help students develop those skills explicitly, while remaining focused on their original course content. This method can be especially effective in large courses – and very large online courses – for efficiently teaching a large number of students how to become more critical thinkers.

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Appendix A

Grading criteria for six sentence arguments

Precondition Sentence is <20 words and clearly comprehensible - not vague due to grammar or typing errors. If this precondition is not fulfilled, the sentence scores zero points.	
#1 Introduction	1. The introduction states the topic of the argument. Can you answer: What is the argument about? 2. The introduction attracts the reader's attention in the context of the case. Can you answer, assuming the role of the recipient in the case: Why should I read this?
#2 Position	1. The position fits to the argument's introduction (#1) Is the position within the horizon of the introduction? (#1) 2. Explicitly identifies the actors and objects in the context of the case. Is it clear, who is supposed to do what?
#3 Reason	1. The reason explains why the position (#2) is a good choice. Do you understand why someone might take this position? 2. The reason is plausible in the context of the case. Do you accept this reason? If not, why not?
#4 Challenge	1. The challenge articulates one point of criticism concerning the reason (#3). Does the anticipated criticism really apply to the supportive reason? 2. The challenge identifies a central weakness of the reason that is plausible in the context of the case. Do you accept this as a central point of criticism? If not, which other, more important challenge would you suggest?
#5 Rebuttal	1. The rebuttal states a response that refutes or qualifies the challenge (#4). Does the rebuttal apply to the challenge? 2. The rebuttal is plausible in the context of the case. Do you accept the rebuttal as sufficient to dismiss the criticism (#4)? If not, why not?
#6 Conclusion	1. Summarizes the argument on the basis of previously presented information (#1–#5). Does the conclusion avoid introducing new arguments or information? 2. The conclusion reinforces the position and emphasizes its relevance in the context of the case. Do you feel that the conclusion motivates you to follow the author's advice?

Additional Guidelines for grading 6SAs

- Each sentence can score 2 points. The second point is conditional on receiving the first point.
- Each sentence is graded on its own. Mistakes or shortcomings in one sentence may not propagate to the grading of another sentence. For instance, if a reviewer does not accept the reason (#3), the conclusion (#6) can still be awarded full marks, even if it reiterates that reason.
- Several criteria demand a claim to be plausible in the context of the case. As a writer, you may invoke anything that you feel is plausible – but you are on the safe side if you invoke specific information from the case or from the lecture.
- If the language is not perfect, try to understand what the writer is trying to say as best you can. If there is some vagueness, write in your comments what you think the sentence is trying to say. If the sentence is incomprehensible, invoke the precondition and explain what the problem is.

Appendix B

Example of a 6SA task, a student's response, and its peer evaluation

Task:

Imagine, you are a member of the investment committee for Switzerland's largest pension fund PUBLICA. Your mandate is to invest over 30 billion CHF in the best interest of those that contribute every month to the pension fund. PUBLICA manages the pensions of all of the university's employees, as well as those of other Swiss government employees. Student groups at the university have called on PUBLICA to divest from fossil fuel companies, like groups at Harvard and Stanford that have demanded the same divestment. You are preparing for your next board meeting, where the issue of divestment will be discussed.

Do you think PUBLICA should divest from fossil fuels? Please develop your opinion and communicate it in the 6SA format.

Student Response:

1. PUBLICA has a responsibility to engage in socially responsible investing and to promote sustainability for our planet.
2. Therefore, PUBLICA should respond to student calls for action on climate and divest from fossil fuel companies.
3. Burning fossil fuels produces emissions that pollute our planet's air and water, thus threatening the environment and the ecosystem.
4. Critics may claim that PUBLICA is not a political actor and it should not divest investment assets for reasons unrelated to the endowment's financial strength.
5. However, pursuing investments in sustainable energy solutions will have lower associated risk, but the same performance as fossil fuel investments.
6. Divesting from fossil fuels will be a major victory for the climate movement and for our generation.

Student Evaluation:

Sentence	Score	Comment
Introduction	0	In my opinion, you do not introduce well the specific topic of this 6SA. You should talk about PUBLICA's aim and its current situation with the students.
Position	2	Perfect, very clear
Reason	1	Your reason is very relevant but I'm not totally convinced that a pension fund will give that single reason to the board.
Challenge	2	Perfect
Rebuttal	2	Completely true.
Conclusion	1	Your conclusion is beautiful but does not clearly remind us of your statement and your decision.