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KNOWING THE UNKNOWN

Educating for ignorance

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Abstract
It is widely thought that education should aim at positive epistemic standings, like knowledge, insight, and understanding. In this paper, we argue that, surprisingly, in pursuit of this aim, it is sometimes necessary to also cultivate ignorance. We examine several types of case. First, in various circumstances educators should present students with defeaters for their knowledge, so that they come to lack knowledge, at least temporarily. Second, there is the phenomenon of 'scaffolding' in education, which we note might sometimes involve the educator quite properly ensuring that the student is ignorant of certain kinds of information. Third, if ignorance is lack of true belief, as a number of commentators have claimed, then in those cases in which students believe something truly without knowing it and teachers show that they lack knowledge, students may abandon that belief and thus become ignorant. In examining the role of ignorance in education, we explore exactly which kinds of ignorance are valuable in teaching situations and draw attention to important epistemic differences between ignorance on different levels.

Keywords Defeaters · Education · Epistemic ends · Ignorance · Knowledge · Scaffolding

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1 Education and ignorance

Education has many goals, such as the political goal of producing good citizens, or the economic goal of ensuring that education serves the economic interests of society. But one clear goal of education is *epistemic*. Indeed, this is arguably not simply one goal of education amongst many, but is rather a constitutive part of the educational enterprise, in the sense that a social practice that merely served political, or moral, or prudential, or economic (etc.,) ends, and which didn't also serve epistemic ends, would not be in the market to count as an *educational* practice in the first place.

It is a moot point what these epistemic ends are, however. At the very least, one would expect education to lead to useful cognitive skills and a body of true beliefs. Usually, however, educational theorists set the epistemic ends at a higher threshold. This might include, for example, the propagation of knowledge, or at least reasoned belief.[1] Or it might involve setting the epistemic bar even higher, such as demanding the development of intellectual virtues and related epistemic standings like understanding.[2] Yet, what all accounts of the epistemic ends of education have in common is that they focus on epistemically *positive* phenomena, such as rationality, knowledge, understanding, insight, reliable belief formation, and the manifestation of the intellectual virtues.[3]

Given that the overarching epistemic goals of education are positive epistemic standings, one might well suppose that negative epistemic standings like ignorance—which is surely a paradigmatic negative epistemic standing—have no role to play in educational practices. We claim that this would be a mistake. In particular, while ignorance obviously cannot be one of the core epistemic goals of education, we argue that nonetheless deliberately cultivating ignorance can sometimes be a *bona fide* educational practice.

One reason why an educational practice might be explicitly geared towards the generation of ignorance is that the epistemic ends of education are coming into conflict with its non-epistemic ends. Accordingly, there might be instances where, say, the social ends of education are served by overriding the epistemic ends and thereby promoting ignorance. Recently, for example, various philosophers have defended the *moral* value of ignorance, such as when it comes to ignorance of certain technological possibilities, risks, and privacy.[4] Accordingly, one might hold that similar considerations could apply in the educational case to ensure that sometimes ignorance should be deliberately generated for non-epistemic reasons.

[1] See, for example, Siegel (2017) for a defence of the idea that the development of critical rationality is central to the epistemology of education.

[2] See Elgin (1999) for a defence of the centrality of the notion of understanding to education. See Pritchard (2013, 2016b, 2018, forthcoming) for a defence of the intellectual virtues as core epistemic goals of education (where understanding is treated as a manifestation of the intellectual virtues). See also MacAllister (2012).

[3] For further general discussion of the epistemology of education, see Robertson (2009). See also the papers collected in Baehr (2016).

[4] See, for example, Hansson (2017) and Miller (2017).

Our interest in the role of ignorance in educational practices is not in the putative non-epistemic basis of cultivating ignorance, however. Rather, we want to suggest that even if one sets aside non-epistemic factors, and thereby focuses only on epistemic considerations, it can nonetheless be the case that educators have reason to cultivate ignorance in their students. Moreover, we contend that such practices, properly understood, are entirely compatible with the idea that the overarching epistemic goal of education is the development of positive epistemic standings. In particular, where ignorance is generated in this way, it is in service of specifically (positive) epistemic ends.[5]

2 The varieties of ignorance

Before we can defend our positive claim, we first need to articulate what we take ignorance to be. For the purposes of this paper, our focus will be on *propositional ignorance*. This is because some of the epistemic phenomena—such as presenting someone with defeaters—do either work rather differently for or do not apply at all to knowledge by acquaintance and procedural knowledge (know-how). Moreover, we will take it that ignorance consist in *either* a lack of knowledge *or* a lack of a true belief in the target proposition. This disjunctive approach allows us to accommodate both of the main proposals in the literature. According to the so-called 'Standard View' of ignorance, to be ignorant with regard to a proposition is to lack knowledge of that proposition.[6] In contrast, according to the so-called 'New View' of ignorance, to be ignorant with regard to a proposition is to lack a true belief in that proposition.[7] Our disjunctive treatment of propositional ignorance means that we do not need to take sides in this debate.[8]

Note that with ignorance so understood we can distinguish between various different kinds of ignorance, since there are a number of ways in which one can fail to know or truly believe the target proposition.[9] This will be salient to our discussion

[5] See Pritchard (2016a) for a defence of the more general point that ignorance can have positive epistemic value.

[6] This position is championed by Goldman and Olsson (2009) and Le Morvan (2011, 2012, 2013). See also Le Morvan and Peels (2016). Based on work in race studies, feminism studies, and agnotology, one might think that there are further varieties of ignorance to be distinguished, as El Kassar (2018) does. Elsewhere, one of us has argued that these fields concern various important accidental features rather than constitutive elements of the nature of ignorance—see Peels (2019b).

[7] See Brogaard (2016) and Peels (2010, 2011, 2012, 2014, 2017a). See also Pritchard (forthcomingb) which argues that proponents of the Standard and New Views are obliged to incorporate a further condition to their accounts, such that ignorance involves the subject manifesting an intellectual failing *qua* inquirer. See also endnote 12.

[8] Propositional ignorance is not the only kind of ignorance, though it will be our focus here. Nottelmann (2015), for example, distinguishes between three kinds of ignorance that correspond to the three-way distinction between propositional knowledge, acquaintance knowledge, and know-how/procedural knowledge. What we are here calling propositional ignorance would only capture the first of these types of ignorance. In what follows when we refer to ignorance without qualification it will be propositional ignorance that we have in mind.

[9] For more on these varieties of ignorance, see Peels (2019a).

since it will enable us to clarify which type of ignorance might be properly cultivated within an educational practice.

The most straightforward ways in which one can be propositionally ignorant are *disbelieving ignorance,* where one actively disbelieves the target true proposition, and *suspending ignorance*, where one suspends judgment on the target true proposition and so neither believes nor disbelieves it. In these cases one is aware of the target proposition and one has adopted a stance regarding it (to the extent that suspension of belief constitutes a 'stance' at any rate), albeit not one of belief. Disbelieving ignorance is arguably a worse form of propositional ignorance than suspending ignorance, in that one's doxastic state is more divorced from how it should be (i.e., belief in the target true proposition). For one thing, it will usually take more evidence to bring someone from a state of disbelief to a state of belief than it takes to bring someone from a state of suspension to a state of belief (in the latter case, there are at the outset usually no considerations to the contrary).

There are also deeper kinds of ignorance where one isn't even aware of the target proposition.[10] In one variant of this case, while one has never considered the target proposition, one would believe it were one to consider it. Nonetheless, one is ignorant of it given that one doesn't in fact believe the target proposition. Call this *unconsidered ignorance*. (This kind of case thus trades on the idea that a distinction can be drawn between dispositional belief and a disposition to believe).[11] A more extreme case of ignorance of this kind would be where one is unaware of the target proposition and one would fail to believe it even if one were to become aware of it. Call this *deep ignorance*. Indeed, we can delineate an even more extreme case of ignorance of this general kind by stipulating that the subject lacks the conceptual resources to even grasp the proposition in question. Thus, even if the subject were to be told about this proposition she would lack the capacity to form a belief in this proposition. Call this *complete ignorance*.[12]

Note that if the Standard View of ignorance is the correct one rather than the New View of ignorance, then there will also be additional kinds of ignorance that specifically concern one's failure to know the target proposition. For example, someone with a true belief in the target proposition might nonetheless be ignorant on this view because she fails to know it. Moreover, the manner in which she fails to know could reveal the extent of her ignorance, such that failing to know where one has an unjustified true belief manifests a more extensive form of ignorance than failing to know where one has a justified true belief (i.e., but where one's true belief is Gettierized).

[10] Note that there is arguably an intermediate kind of propositional ignorance whereby one has considered the target proposition and is as yet undecided about it (i.e., such that one doesn't even suspend judgement). See Friedman (2017) for a defence of the idea that being undecided about a proposition is not the same as suspending judgment about it.

[11] See Audi (1994) for a key work examining this distinction.

[12] Note that on Pritchard's (forthcomingb) account of ignorance, a failure to attain the relevant epistemic/doxastic standing (e.g., knowledge or true belief) is only one condition for ignorance. Accordingly, there can be, for example, propositions that one is completely unaware of but which one don't thereby count as ignorant of (whether deep ignorance or otherwise). See also footnote 7.

Finally, notice that propositional ignorance comes on different levels. In the basic case, one is ignorant of the proposition that *p*—say, that Antarctica is the largest desert on earth (which it is, surprisingly).[13] We could dub this 'first-order ignorance'. First-order ignorance often goes hand-in-hand with second-order ignorance, whereby one is ignorant of the fact that one is ignorant that *p*. Most people are not only ignorant of the fact that Antarctica is the largest desert on earth, for example, but are also ignorant of the fact that they are ignorant of this fact. First-order ignorance does not entail second-order ignorance, however, as one can exhibit the former without the latter. For example, most of us are well aware of our ignorance regarding the exact number of Amsterdam's inhabitants (even though one could easily look it up), and hence while we are ignorant of this proposition, we are not ignorant of the fact that we are ignorant of it.[14] This is true even if we have never explicitly considered whether we are ignorant of the exact number of Amsterdam's inhabitants: we *know* that we are ignorant of this even if we have never consciously considered whether we are ignorant of this, pretty much in the same way as we *know* that we are less than 1456 feet tall, even if we have never considered this proposition.

All this is important, for it means that in defending the idea that we should also educate for ignorance, we should ask not only what the relevant *kinds* of ignorance are, but also *on which level* that ignorance is to be found.

3 Presenting defeaters

Sometimes we know something, or at least have an epistemic basis for believing it at any rate, until we run into defeaters. Defeaters are usually distinguished in terms of those that undermine the truth of what we believe (a *rebutting* defeater) and those that undermine our epistemic basis for believing it (an *undercutting* defeater). So being told by an authority that Antarctica is not the world's largest desert would be a defeater of the first kind, while being told that one's reason for believing that Antarctica is the largest desert is problematic (e.g., that the webpage that was your source for this belief is unreliable) would be a defeater of the second kind.[15] There can

[13] If you knew this already, here is a further, maybe even more surprising example. Most people are ignorant that there is a shrimp that has a specialized claw whose snap creates a cavitation bubble that releases a sound of up to 218 decibels (louder than a gun), while the cavitation bubble reaches temperatures of over 4700 °C, almost as hot as the sun. Unsurprisingly, the shrimp is called 'pistol shrimp' (*Alpheidae*). (Thanks to Naomi Kloosterboer" for this wonderful example.) Nothing of what we say depends on the details of such examples.

[14] Arguably, one can even have first-order *knowledge* while exhibiting second-order ignorance. If the Standard View of ignorance is correct, then this point is fairly straightforward, as most epistemologists will allow that knowing that *p* does not entail knowing that one knows that *p*. But one might even get a combination of first-order knowledge and second-order ignorance on the New View. For example, one might imagine a variant of Radford's (1966) diffident schoolboy example such that the subject knows the target proposition but as a result of a moment of self-doubt no longer believes that he knows it (even though he does still believe it).

[15] For the distinction, see Pollock (1986, p. 39). Note that some authors, such as Bergmann (1997, pp. 102–103), distinguish a further type of defeater—*no-reason defeaters*—where no specific reason leads to the defeat. For further discussion of defeaters, see Sudduth (2008).

clearly be an educational need to present defeaters (of either type), and for purely epistemic reasons. Indeed, as we will explain, although the presentation of defeaters can temporarily lead to ignorance, it can also be in the service of overarching epistemic goals in education, such as the promotion of knowledge and understanding.

Before we do so, though, a word on 'epistemic reasons'. Some philosophers have argued that epistemic reasons to believe or to not believe something are reasons that bear on the truth value of the proposition (not) to be believed.[16] That is not the kind of reason that we have in mind in this section. Rather, what we have in mind is a reason to perform or not perform an action in order to achieve certain epistemic ends. As it happens, we believe that there can actually be epistemic reasons for actions.[17] However, the point of this section does not depend on that idea; all we want to argue is that there can be good reasons to cultivate ignorance in order to achieve epistemic ends.

Now, let's consider a toy example. Suppose a student has a true belief which enjoys very weak epistemic support. Imagine that she truly believes that Antarctica is the largest desert on earth, but her only reason for believing this is that she overheard a classmate stating that this is the case. That's certainly *some* reason to believe this proposition, but hardly a sufficient epistemic basis by itself for knowledge, particularly given the surprising nature of the claim in play. Recognizing the inadequacy of the student's epistemic basis for this belief, the educator might adduce a defeater of either kind to provoke doubt, and thereby further inquiry, on the part of the student.

The most straightforward way of doing this is via appeal to undercutting defeaters. For example, the educator might point out that forming a belief in this proposition purely on the basis of overhearing someone assert it is not a very reliable manner of belief-formation. Rebutting defeaters can also be employed to serve the same purpose. For example, the educator might appeal to the surprising nature of the claim in play by asking the student how Antarctica could possibly be a desert given that there is an apparent abundance of snow and ice there (in fact, there is only an abundance of the latter). Notice that given the truth of the target belief this rebutting defeater will be in its nature a *misleading defeater* as it is prompting the student to question something that is true. Nonetheless, there could be educational reasons to employ such a misleading defeater in the service of wider epistemic ends.

Either of these strategies could lead the student to abandon her true belief, if only temporarily. It would follow that on the New View of ignorance, at least, that ignorance was thereby generated. Interestingly, notice that undercutting and rebutting defeaters tend to generate different doxastic responses in the subject, and hence different kinds of ignorance. While the former are apt to make the student suspend judgement about the target proposition (and thus lead to suspending ignorance), the latter are more likely to make the student disbelieve that proposition (and thus lead to disbelieving ignorance, which we noted above is arguably a worse kind of ignorance). Given the nature of the scenario, in neither case do we have unconsidered,

[16] E.g., Hieronymi (2006, 2005) and Kelly (2003).

[17] For argumentative support for fort his position, see Peels (2017b, pp. 110–111).

deep, or complete ignorance. Notice too that we will tend to only have first-order ignorance generated in this case. Given that the student is aware of the defeater, she will also tend to be aware of her ignorance, and hence won't exhibit second-order ignorance. In any case, the first-order ignorance in play is being generated by the educator precisely because she is trying to get the student to enhance her epistemic basis for this true belief, and not simply be content to accept it on such a weak epistemic basis. The ignorance is thus being cultivated by the educator in order to serve overarching epistemic goals.

Now one might think that the educational application of defeaters here was due to the specific fact that the agent's epistemic basis for belief was sub-optimal. If that were right, then this would only be a point that applies to the New View of ignorance, and not also the Standard View, since it wouldn't apply to cases where knowledge, specifically, is replaced by ignorance. Interestingly, however, there can also be cases where defeaters are employed in an educational context to expressly target knowledge.

Imagine now that our agent, rather than forming her true belief about Antarctica being a desert by overhearing something that her classmate asserted, instead forms it by remembering that this information was passed on to her by someone authoritative (like another teacher). Now it seems to amount to knowledge. There might nonetheless be an educational purpose to offering defeaters to this belief, however. For example, suppose our educator wants to make the point that it is not enough to uncritically accept information from others, even authorities, particularly when the claim in question is surprising and an independent epistemic basis is easily attained (two conditions that obviously hold in this case). The educator would thus be making an epistemic point about the importance of getting an especially secure epistemic basis for one's beliefs when the circumstances demand it.

With this in mind, the teacher might query why the student is so willing to accept this belief solely on this basis. Could the informant have been mistaken? Could the student be misremembering, or misunderstanding, what the informant told them?[18] Here we have the presentation of undercutting defeaters designed to make the student think more carefully about why she believes what she does. While undercutting defeaters are the most straightforward way of encouraging the student to reevaluate her information source, one could also employ rebutting defeaters in this regard. Again, simply noting how very surprising this claim is could serve this purpose. As before, the rebutting defeater is more apt to generate disbelieving ignorance, in contrast to the suspending ignorance that the undercutting defeater is likely to produce, and the ignorance in play is likely to be only first-order. Notice too that both types of defeater are in this case misleading defeaters, given that the student in fact not only has a true belief, but also a true belief with a sufficient epistemic basis for knowledge (at least prior to the presentation of the defeater anyway).

[18] One might argue that simply querying an epistemic basis for belief in this way is not yet to offer a defeater as such. It is important to remember here, however, that this is not just *anyone* raising this query, but specifically a teacher who is occupying a privileged epistemic role in this regard. That the teacher is querying the epistemic basis for belief *is* a plausible defeater.

The goal of introducing these defeaters is to prompt the student to undertake further investigations, such as regarding the credibility of the informant, or to find independent support for the claim in play. In doing so, the student is thereby putting her true belief on a firmer epistemic footing. These defeaters are thereby generating ignorance (by the lights of both the Standard View and the New View of ignorance), but only as a temporary state as a means to ultimately generating positive epistemic goods. In particular, the ignorance that is being generated is of a specific kind, in that it will tend to be either suspending or disbelieving ignorance (most likely the former), as opposed to unconsidered, deep or complete ignorance, and will only be first-order ignorance.

Now, one may object that if the ends here are truly epistemic, such as knowledge and understanding, there is a much quicker and more robust way of bringing about those ends. For, one can give further and better reasons for thinking that Antarctica is the largest desert on earth, such as a detailed account of what it is for something to be a desert and scientific evidence regarding precipitation on Antarctica. We agree that that would be a good way to reach the epistemic ends of knowledge and understanding *regarding the proposition that Antarctica is the largest desert on earth*. But, of course, there are further epistemic ends to be reached and presenting defeaters before giving certain additional evidence may be a good way to reach those ends. Among those ends are: realizing the strength or weakness of one's reasons, the employment of epistemic virtues like curiosity and thoroughness, being more distinctive about when one can accept something on someone's authority, and so on.

4 Educational scaffolding and ignorance

There is another way in which educational practices can promote ignorance for specifically epistemic reasons. This also involves factors that would prevent the student from knowing or having a true belief, though in a very different manner than that considered in the last section. Our concern before was with an educator introducing defeaters and thereby cultivating ignorance in her students. In contrast, our concern now is with how it might be important to an educational practice for the educator to actively ensure that students are ignorant of certain kinds of information by not even making that information available to them.

It is often important to the practice of good teaching that one is able to steer the student through the material that she is learning so as to make it manageable, and thereby enhance the student's capacity for learning. In this way, for example, a complex topic might be broken into digestible chunks, or the educator might bracket aspects of the subject matter that she recognizes as being particularly thorny until the student has mastered the basics. One can see the clear rationale for this, and why it is also a specifically epistemic rationale—if the student is overcome by the difficulty of the topic, then she will fail to learn anything, so it is important to the

educational goal of promoting learning that one ensures that this doesn't happen. The metaphor that educationalists often use for this practice is *scaffolding*.[19]

What is interesting for our purposes is that educational scaffolding can sometimes quite properly lead to the cultivation of a specific kind of temporary ignorance on the part of the student. Consider the following scenario. The student is learning a new topic, algebra, say. The educator knows that the student will struggle with this topic, and so she gives her a selection of easy questions to tackle to begin with, and talks the student through each one. The student is growing in confidence, as she gets more and more of the easy questions right. But now it's the end of the class and the educator needs to set some homework. Inevitably, she won't be with the student while this is being completed. With this in mind, she looks through the questions in the textbook and makes a selection that she is confident the student can easily complete given what she has learnt so far. Importantly for our purposes, she doesn't include in her selection some of the more difficult questions that she knows would throw off her student and cause her to doubt what she has learned so far. Indeed, she may go so far as to deliberately avoid directing students to material if there is other material proximate to it which she believes would undermine the student's learning were she to become aware of it. In doing all this, the educator is ensuring that the student will successfully complete the homework and that her confidence in tackling this material will grow accordingly.

The scenario we have just described is a familiar case of educational scaffolding in action. Notice how the educator is in effect creating an epistemically friendly environment for the student by excluding information that would prevent the student from prospering. In the process, however, she is ensuring that the student lacks true beliefs in certain propositions (and hence *a fortiori* lacks knowledge of these propositions), in that there will be aspects of the subject matter (questions about it, at any rate) that she is unaware of. Of course, the student didn't have a true belief in these propositions previously, so the educator is not creating ignorance, but she is ensuring that it is preserved. Moreover, she is doing so for epistemic reasons, since by preserving this ignorance she is helping the student to master the subject matter, and thereby acquire knowledge.

Let's consider a second case, where the educator is plausibly creating rather than merely preserving ignorance. Imagine a physics teacher explaining the basic principles of Newtonian physics to a student. It would be natural for such an educator to leave to one side just now the fact that such principles don't apply to either very small or very large items in the universe, as such a complexity is unlikely to add anything to the discussion, but it might well confuse the student a great deal. This eliding of relevant information would thus be a case of educational scaffolding. But in not making this point explicit the educator is at least implying that these scientific principles have universal application. Indeed, given that educators normally mention restrictions of this kind, the student would be justified in making this inference. If

[19] See, for example, Foley (1994) and Simons and Klein (2007). This idea is often traced to Vygotsky's (e.g., 1978) educational theory, and in particular his notion of the *zone of proximal development*—see, for example, Wood and Middleton (1975). For a useful recent overview of Vygotsky's educational theory, see Davydov and Kerr (1995).

she does so, however, then she forms a false belief. The educational strategy, geared towards an overarching epistemic goal, is thus *generating* ignorance. Or perhaps we should say: generating a specific kind of ignorance, namely disbelieving ignorance, where the student used to be deeply ignorant before Newtonian mechanics was presented to her. The generation of ignorance is temporary, of course, as clearly this is a false belief that the educator plans to correct when the right time comes. Crucially, however, even if she becomes aware that the student has formed this false belief, then she would probably not correct it at this point, at least so long as it remains implicit.[20]

5 Understanding and ignorance

Notice that it is crucial to what is going on in the educational scaffolding case just described that the ignorance that the educator is effectively making use of as part of the scaffolding strategy is both first-order and second-order. That is, the student isn't just ignorant of the target proposition, but also ignorant that they are ignorant of it, where the latter is important to preserve at this stage to bracket the relevant complexities. The process of eventually removing this ignorance will naturally proceed by initially making clear to the student that there is second-order ignorance in play (i.e., such that she comes to realize what it is that she is ignorant of), as a first step towards ultimately removing the first-order ignorance.

Interestingly, the process of removing this ignorance—which is, of course, an educational strategy aimed at epistemic ends—might itself, at least temporarily, generate further ignorance. We can bring this point out by considering how education is often specifically focused on promoting understanding, which is an integrated body of knowledge, rather than just knowledge (or justified true beliefs, and so on) in a set of propositions. As we might say about the student in the Newtonian physics example just described, while she now knows some very useful facts about physics, she is also ignorant of some fairly fundamental facts about physics too, and this means that she has a quite basic lack of understanding of this subject matter. But consider what would happen once the student is made aware of this lack of understanding. The very rationale behind the educational scaffolding strategy to bracket these complex facts would also explain why a student, upon becoming aware of this lack of understanding, might temporarily lose her confidence in more propositions regarding this subject matter than just the ones that she is ignorant about.

The educational goal of promoting understanding, and thereby removing the student's ignorance in this regard, might thus temporarily lead her to suspend belief in true propositions that she previously believed (and indeed knew). Again, then, we have a case of an educational strategy, geared towards an overarching epistemic end,

[20] It is important that the student's false belief remains implicit in this way, for if she makes explicit to the educator that she holds this false belief, such as by stating it to her, then it will be incumbent upon the educator to say *something*. Educational scaffolding is not meant to legitimatise outright lying on the part of the educator, after all!

temporarily generating (suspending) ignorance. What is different about this case, however, is that the generation of ignorance is more an unwanted side-effect of the educational strategy, rather than being an explicit part of it. The educator's overarching goal is not the generation of ignorance, but rather the promotion of the student's understanding—indeed, the educator ultimately aims to *eliminate* the student's ignorance. It is just that attaining the latter goal sometimes involves temporarily generating ignorance.

6 Showing that the student doesn't know

Imagine that a student truly believes some proposition, but doesn't know it. The student may fail to have knowledge for a variety of reasons. Maybe she believes the proposition in question merely out of wishful thinking, or the way she formed that belief was clearly unreliable. Once it becomes clear to an educator that a student holds a true belief but lacks knowledge, it is only natural for the educator to want to explain to the student why knowledge is lacking even though her belief is true.

One way of doing this might involve providing the student with a sufficient epistemic basis in the target proposition, and hence ensuring that she has knowledge. In the simplest case, for example, telling a student that something she believes is true, but that her reasons for holding it are inadequate for knowledge, will thereby lead to the student having knowledge, since she will now base her true belief on the reliable testimony of the educator. Alternatively, the educator might go further to actually articulate the reasons why this true belief ought to be held, in which case the student now has both the educator's testimony and the epistemic basis that they have articulated as grounds for their knowledge.

These types of cases are not our concern, however, but rather scenarios where the educator has good educational reasons why she would want to make the student aware that she lacks knowledge without in the process supplying the student with an epistemic basis that would enable her to have the target knowledge. In particular, it might be important to the educator that the student identifies the epistemic basis for her true belief herself. The reason why such cases are interesting for our purposes is that if the student is given good reasons for thinking that she lacks knowledge, without at the same time being given a new epistemic basis for this true belief, then this will ordinarily lead to the student losing her belief, at least until she identifies a new epistemic basis for believing it. After all, if one is convinced that one lacks an adequate epistemic basis for believing a proposition, then one will lose one's confidence that this proposition is true, which would mean no longer believing it.

What is interesting about such cases is that they involve the employment of an educational practice that leads the student to lose her true belief. At least on the New View of ignorance, it follows that this educational practice is generating ignorance (in the normal case, this would be suspending ignorance, as the subject

is likely to now suspend judgement about the target true proposition). Moreover, notice that the educational practice is clearly geared towards specifically epistemic ends, as the educator's goal is to encourage the student to identify an adequate epistemic basis for the belief herself (e.g., to go look up the proposition in question in a reliable way, such as in a reference work, and thereby establish its truth).

This wouldn't be a case of an educational practice generating ignorance on the Standard View, of course, as the student was already ignorant of the target proposition by the lights of this proposal (as the student lacked knowledge before the educational intervention, and still lacks knowledge afterwards). Nonetheless, such cases are still significant even for exponents of the Standard View. This is because they concern an educational intervention where ignorance is *maintained* rather than removed, even though it would have been very straightforward for the educator to have removed the ignorance in question. Moreover, notice that the educator's intervention, even though it is geared towards specifically epistemic ends, actually results in the student's epistemic position becoming more removed from being knowledge than before (in that the student previously at least had a true belief in the target proposition, whereas after the intervention she doesn't even have that). The educator is thus still in an important sense cultivating ignorance via her intervention, even by the lights of the Standard View.

One may wonder how this variety of ignorance generation or maintenance serves positive epistemic goods. After all, in the scenario at hand, the student abandons a true belief. It seems to us that various epistemic goods are served even in this kind of scenario. First, in the new situation, even though the student no longer believes the truth, her doxastic attitude at least matches her evidential situation and that is an epistemically good thing.[21] A doxastic attitude—in this case suspension of judgment—that matches one's evidential situation is, at least in one of the many sense of 'rationality', an epistemically rational attitude, while belief where one's evidence warrants only suspension of judgment is not. Second, even though this situation will not come with a true belief in the object proposition, it may come with *other* true beliefs and even knowledge—clearly, other epistemic goods. For, the first-order ignorance in a situation like this will often come with second-order knowledge. For example, if a teacher shows a student that her belief is based on wishful thinking and that the student, upon seeing that this is right, abandons the belief and ends up with suspension of judgment, she will often come to *know* such things as: (1) my previous belief was irrational, (2) my previous belief did not fit the evidence, (3) I have abandoned that belief, (4) my current attitude—that of suspension of judgment—matches my evidence, (5) my current attitude towards the proposition is rational, and so on.

[21] That this is a good thing has been argued in detail by Conee and Feldman (2004). Feldman (2002, pp. 378–379) has even argued that rationality or reasonableness is the *goal* or *aim* of belief.

7 Concluding remarks

In this article, we have focused on the instrumental role that ignorance cultivation can play in educational practices in aiming at various epistemic ends, such as knowledge and understanding. We have focused on propositional ignorance; whether mutatis mutandis the same applies to objectual ignorance and procedural ignorance is an issue that needs further inquiry.

We have argued that there are at least three ways in which teachers can properly aim at ignorance in their students: (1) sometimes one should present students with defeaters for their knowledge, (2) scaffolding in education can come with ensuring that the student is ignorant, and (3) sometimes teachers should show that students lack knowledge regarding a particular issue. In each of these cases, the teacher aims at temporary and first-order ignorance in their students. In the first and third cases, this comes with *second-order knowledge* of such first-order ignorance. In the case of scaffolding, a teacher may even maintain second-order (say, deep) ignorance in his students of their first-order ignorance.

Importantly, we have assumed that the teacher in question has not only the will but also the ability to lead the student out of the ignorance in question. If the student sticks with the ignorance or if there is good reason to think that the teacher will not be able to lead the student away from the temporary ignorance, then the ignorance-inducing strategy will not have the kind of epistemic value that we discussed. We are, thus, talking about cases in which things go well—in such cases, temporarily inducing ignorance has epistemic value.

We should note that what we have argued is an instantiation of a more general phenomenon: love of truth can and sometimes should manifest itself in a wide variety of strategies that promote ignorance. Scientific research, judicial inquiry, and journalistic investigation sometimes aim at maintaining ignorance in order to pursue epistemic ends, for instance by neglecting or leaving aside what are considered to be details or irrelevancies in order to focus on what matters. Political campaigns and projects in media can aim at maintaining ignorance, for instance, by avoiding or ignoring what is considered to be misleading evidence. Here, we have unearthed a variety of educational strategies that aim at generating or maintaining ignorance in order to reach certain epistemic ends in the long run. We leave it for another time to explore whether these specific strategies are unique to the realm of education or whether they can be found elsewhere as well.[22]

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