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ABSTRACT
The notion of critical thinking and its theoretical complexity are used as a case for an epistemological critique of the model of intended learning outcomes. The conclusion is that three problems of learning outcomes, previously discussed in the literature, become even more challenging when seen in the light of critical thinking. The first problem concerns interpretations, as the use of learning outcomes is dependent on advanced but implicit interpretative frameworks. The second is the problem of educational goals that cannot be expressed through learning outcomes, and the third is the risk that learning outcomes may establish a ceiling for student ambitions. It is argued that the example of critical thinking shows the seriousness of the epistemological critique of learning outcomes and how the use of learning outcomes can divert teachers’ and students’ attention away from important goals.

The higher education sector worldwide has undergone a substantial transformation during the past decades. Behind this development is the belief that higher education can provide solutions to many national and global challenges – a belief shared by stakeholders both outside and inside academia. A rational for this belief is that it is beneficial to society as well as to the individual that higher education is based on academic values and principles, as it will provide not only professional skills, but also general skills such as critical thinking. The point of departure of the present paper is that to uphold such academic values and principles, teachers, managers and policymakers alike must be able to explicate them and the possible threats against them, and let them be part of an academic discussion involving all of academia. To do so is to behave responsibly both towards future students and towards society at large.

The higher education sector has in recent years seen the introduction of formal models for how teaching and learning should be approached, administrated and evaluated so as to ensure efficient education of high quality (e.g. Jackson 2000). Such formal models have been introduced not least in an attempt to make higher education more transparent for students and other stakeholders. One example is the model of intended learning outcomes (e.g. Biggs and Tang 2011; Havnes and Prøitz 2016; Hussey and Smith 2002). We will not question the good intentions behind the model, but it is worth considering how it fits with the principles and values assumed to make higher education beneficial to society, one such principle being the promotion of critical thinking. The purpose of the present paper is to analyse the extent to which the learning outcome model is compatible with the ambition to develop students’ critical thinking.
Critical thinking as a purpose of higher education

The purposes of higher education can be identified on different levels. There are modern policy discussions being pursued by, for example, the Council of Europe Committee of Ministers (2007), which state that students should be prepared for employment, as well as undergo personal development and be prepared to be active participants in a democratic society. Here, we see traces of Cardinal Newman’s (1852) notion of higher education as a ‘cultivation of the mind’. For the level of classroom practice, purposes need to be expressed in more specific terms relating to actual student skills and knowledge, and there is no shortage of such discussions, which also have clear historical roots. In his vision for Berlin University written in 1809 or 1810, Wilhelm von Humboldt stressed the need for students to understand the uncertainty of knowledge and develop a scholarly attitude (Humboldt 1970). The need to give students a researcher’s outlook has been a leitmotif throughout the history of higher education since Humboldt, through the German philosopher Jaspers (1959) to the present-day call for research-based education. Despite the claims made by, for example, Pechar (2012), who argued that the old Humboldtian ideals were out-dated and elitist, the ideal lives on, adapted to the modern world, and is perhaps now more relevant than ever in the age of expanding higher education. For example, whereas the concept of employability is a modern addition to the academic discourse, the needs of the Prussian civil service were an important concern for Humboldt, and the idea of preparing for life-long learning is, mutatis mutandis, evident in the works of both Newman and Humboldt (though perhaps with different ideological framings). The common theme is students’ intellectual development, today often expressed as critical thinking, a term found across a number of otherwise different theoretical standpoints concerning the purposes of higher education.

Only a brief introduction of the intricate concept of critical thinking is possible here as the concept covers a wide set of phenomena, but this introduction will provide a context for the use of learning outcomes. It is important to understand that discussions about critical thinking differ in scope. A limited notion of critical thinking is to see it as the ability to think scientifically in a disciplinary context, as exemplified by Reddy and Lantz (2010). Still, also in a strict disciplinary context, critical thinking is often expected to go further than ‘methodological reasoning’ and include comprehending the epistemological and ontological peculiarities of the studied disciplines (e.g. Erikson and Erlandson 2015). Using a broader conception, which goes beyond methodological and disciplinary boundaries, critical thinking can be seen as the ability to critically reflect on personal experiences and the world at large. This has also been linked to the view that higher education should have an emancipatory function, with critical thinking being a central tool for student empowerment (e.g. Barnett 2011, 2015; Bowell 2017).

On a general level, critical thinking has been defined as a set of abilities or cognitive skills related to logical analysis and evaluation of arguments (e.g. Facione 2000; Giancarlo and Facione 2001; Pithers and Soden 2000; Stupnisky et al. 2008). Giancarlo and Facione (2001, 30) defined critical thinking as ‘purposeful, self-regulatory judgment, a human cognitive process. As a result of this non-linear, recursive process, a person forms a judgment about what to believe or what to do in a given context’. It has also been argued that, as a central purpose of higher education, critical thinking must include dispositions for using these abilities. These dispositions include both the ability to distinguish situations that call for critical thinking and the motivation to actually think critically in those situations (e.g. Facione 2000; Giancarlo and Facione 2001; Halpern 1998). Further, it is possible to expand the notion of critical thinking to include, for example, the willingness and ability to communicate and uphold a clear exchange of ideas, particularly the ability to argue or seek clarifications (e.g. Andrews 2015; Barnett 2011, 2015; Ennis 2015). Critical thinking can also be problematized in other ways. One position is that critical thinking involves different abilities in different disciplinary traditions (e.g. Moore 2011). Another position is that critical thinking is treated as a general set of abilities and dispositions (e.g. Davies 2013). For the sake of simplicity, the second position is used implicitly in the present paper. In practice, these two positions can also be combined, as shown by Andrews (2015): It is possible to see critical thinking as a general set of abilities and dispositions,
and at the same time argue that their manifestation in an educational setting only can be recognized by a scholar well versed in the subject matter on which the critical thinking is applied. Andrews also discussed other lines of demarcation regarding perspectives on critical thinking: On the one hand, we can depict critical thinking as the ability to reach reliable conclusions, on the other, we can depict it as a generally sceptical outlook. Naturally, adopting one of these positions over the other has consequences for how we expect students to develop during their transition at university.

As is evident from Barnett (2015), the role of critical thinking in higher education takes on different meanings if it is seen in a strict disciplinary context as opposed to in a generic context, where students are expected to think critically on a wide set of problems and situations also outside their areas of disciplinary expertise. Following Barnett (2015), it can be argued that having critical thinking abilities and dispositions beyond disciplinary contexts also supports ‘employability’. A basic level would be having the ability to distinguish lack of scientific evidence and to promote the use of scientific reasoning, which is relevant as a countermeasure to what Berg (2017) described as an increased tendency towards downplaying the importance of scientific proofs in political decision-making. It has also been argued that critical thinking is vital for students’ future roles as citizens in democratic societies (e.g. Barnett 2011, 2015). In a modern context, this is emphasized by the need to problematize, for example, the ‘fake news’ circulating in social media (e.g. Bowell 2017; Frederiksen 2017; Peters 2017).

At least since the trial of Socrates, awareness of the potential dangers of critical thinking has been part of the Western tradition. Standing up for critical thinking means doing so also in situations where critical thinking may suddenly become ‘dangerous’. It is one thing that critical thinking is a threat to those who wish to manipulate through fake news or flawed knowledge claims. It is another thing that students’ critical thinking does not necessarily mean they will reach the same conclusions as their teachers do. When students develop critical thinking skills, this is the opposite of accepting authority, and as Andrews (2015) pointed out, teachers might not like students disagreeing with them, but critical thinking must allow students to do so. Critical thinking beyond the strict scientific methodological sense also means that students will take their various private ideological standpoints – from Marxist to neo-liberal – as valid points of departure. Critical thinking is not about what conclusions students reach – it is about how they reach them. Accepting this can be seen as a matter of treating students as adults, where students are expected to assume responsibility for their knowledge and at the same time downplaying the role of teacher authority. This is a view that brings us straight back to the vision of higher education expressed by Jaspers (1959). Expressed differently, supporting critical thinking is a matter of supporting students’ academic freedom (e.g. Macfarlane 2017). Expecting students to reach ‘correct’ conclusions or, worse, assessing students’ critical thinking based on the degree to which they reach ‘correct’ conclusions, is the antithesis of supporting their critical thinking.

Taken together, these discussions show the degree to which conceptions of critical thinking are dependent on context, interpretation, and scholarship – and on having the academic freedom to engage in this interpretation. Nonetheless, students are expected to develop critical thinking as a desired outcome of higher education, and such expectations bring us to the issue of formal models of intended learning outcomes.

**Intended learning outcomes**

Central to the idea of intended learning outcomes is that education should be planned based on the competence students are intended to develop, and not on the content the teachers happen to have the intention to teach. Thus, the learning outcome model helps us shift the focus from the teacher to the results of students’ learning processes. The literature is wide-ranging, but reviews of the historical development of the model are found in, for example, Allan (1996) and Havnes and Prøitz (2016). An important aspect of formulating an intended learning outcome is to select a verb that describes students’ future ability in relation to subject matter – in the first year, for example, being able to ‘describe’ or ‘explain’, eventually progressing to more advanced intended abilities in a later year,
for example, being able to ‘analyse’ or ‘criticize’ (e.g. Allan 1996; Biggs and Tang 2011; Gosling and Moon 2002; Jackson 2000). Learning outcomes are expected to show students what they have to accomplish in order to pass. The latter is stressed by Gosling and Moon (2002, 11): ‘Students have a right to know what they should be learning and the basis on which their work will be judged’. This is the principle of constructive alignment, which means that teaching activities and assessment should be aligned to the intended learning outcomes (e.g. Biggs and Tang 2011; Gosling and Moon 2002).

The learning outcome model has been endorsed in higher education policy initiatives worldwide, as reviewed by Havnes and Prøitz (2016). In Europe, the Bologna-project makes learning outcomes a central tool, the aim of which is to make educational programmes transparent and comparable (e.g. Froment et al. 2006). In Sweden, for example, the law defines learning outcomes on the programme level. According to Havnes and Prøitz (2016), the learning outcomes initiative has the ‘… double intention of changing higher education systems and the mindset associated with teaching and learning practices …’ (206). The potential of using learning outcomes as management tools has also been pointed out by a number of proponents: Learning outcomes have been adopted by managers for de-privatization of courses and for giving institutional and departmental leadership tools for quality assurance and accountability (e.g. Aamodt, Frølich, and Stensaker 2018; Caspersen and Frølich 2015; Jackson 2000).

A number of critical concerns have been raised against the learning outcome model. They can be roughly divided into two kinds, though they are often combined in the literature. The first kind of critique challenges the use of learning outcomes as a managerial tool, where it is argued that using learning outcomes can diminish teachers’ academic freedom and divert academic attention by putting administrative practices at the forefront (e.g. Clegg and Ashworth 2004; Furendi 2012; Havnes and Prøitz, 2016; Hussey and Smith 2002, 2008; Lassnigg 2012). These critical voices are also concerned about the use of learning outcomes for quality assurance. The debate on the pros and cons of learning outcomes as tools for management and evaluations follows, to a certain degree, ideological lines, particularly as a critique of neo-liberal positions. However, even those in favour of using learning outcomes for quality assurance might consider Biesta’s (2009) caveat, which is that there is a risk in focusing too much on what can be measured, because we risk losing sight of desirable outcomes that cannot be measured. There are also empirical findings suggesting that even if formal learning outcomes for a course exist, their influence on teaching and assessment practice might not be as profound as the adopted policies suggest (e.g. Dobbins et al. 2016; Furendi 2012; Hadjianastasis 2017; Havnes and Prøitz, 2016; Lassnigg 2012; Schoepp 2017).

The second kind of critique challenges implicit epistemological assumptions associated with learning outcomes, concerning both how teachers understand and use learning outcomes, and how students can understand and be helped by them. In relation to teachers’ use of learning outcomes, it is argued that conceptualizations of knowledge are much more complex than the learning outcome model suggests. Hussey and Smith (2002) argued that learning outcomes ‘… give the impression of precision only because we unconsciously interpret them against a prior understanding of what is required. In brief, they are parasitic upon the very knowledge and understanding that they are supposed to be explicating’ (225). As argued by, for example, Entwistle (2005) and Allais (2012), differences between disciplinary subjects add further complexity and increase the risk of oversimplification. The implicit interpretations go further, as Hussey and Smith (2002) pointed out that verbs such as ‘describe’, ‘analyse’ or ‘demonstrate’ mean different things in different disciplines. Further, the idea that the verb ‘understand’ denotes a level of learning less demanding that ‘analyse’ is valid only in relation to a preconception of the competence called for; it is not a relation inherent in the verbs’ meanings (see also Clegg and Ashworth 2004; Hadjianastasis 2017). Here, it ought to be added that different teachers will have different disciplinary understandings and thus may have different interpretations of the same learning outcome (including setting different standards for when a learning outcome has been reached). First, this means that learning outcomes are not as
beneficial for transparency as the literature promoting them suggests. Second, it means that teachers must assume the responsibility for interpreting learning outcomes and must be given the academic freedom to do so.

According to Avis (2000), a further problem is that not every goal of higher education can be expressed as a learning outcome. As shown by James and Brown (2005), this is particularly problematic if all learning outcomes are expected to be open to traditional assessments, as suggested by the model of constructive alignment. There are at least two dimensions to this. First, it concerns what cannot be expressed as learning outcomes. Second, it concerns what might be expressed as learning outcomes but cannot be assessed. This problem is summed up in Reindal’s (2013) argument that if educational goals are made explicit only when formulated as learning outcomes, there is a risk that teachers will have a limited understanding of goals and perhaps even lose sight of some of them, thus meeting students with an outlook directed only at aspects that can be covered by learning outcomes.

When it comes to the students, they lack their teachers’ expertise, and therefore have a much more limited interpretative framework, leading to more trivial interpretations (e.g. Allais 2012; Havnes and Prøitz 2016; Hussey and Smith 2002, 2003, 2008). The more unfamiliar students are with academia and/or the disciplinary subject, the less they understand about the expectations expressed in the learning outcomes. As noted by Clegg and Ashworth (2004), this particularly problematizes the assumption that learning outcomes can make educational goals more transparent for non-traditional students. The students’ limited interpretations also challenge the notion of constructive alignment: Having a limited understanding of learning outcomes – which is a natural effect of students being novices in their field – will not give them much command of what eventually will be expected of them. In line with this, Hussey and Smith (2008) argued that, at the course level, a set of learning outcomes ‘... would state little more than an annotated list of contents. Attempts to make them precise statements for exactly specifying assessment tasks or for audit by those not familiar with the subject area are futile’ (114). At the programme level, learning outcomes would be even less informative (see also Avis 2000; Hussey and Smith 2002, 2003).

If students are told exactly, through learning outcomes, what they are expected to achieve in order to pass, they are also given the message that this is how far they need to strive (e.g. Havnes and Prøitz 2016; Hussey and Smith 2002). In other words, a ceiling is created – a ceiling at which students can safely stop, knowing that any further achievements will not be rewarded. The more weight the learning outcome model is given, the more central this ceiling can become in students’ understanding of higher education. Naturally, it is easy to say that teachers must be careful not to create ceilings through the learning outcomes, but if goals are to be transparent and show students what is expected of them in order to pass, there is hardly any need for them to strive further. In addition, a ceiling is created out of students’ necessarily limited understanding of what they are intended to learn.

The consequences of the above-discussed issues do not only concern teachers and students. Institutional management is also at risk of having their attention diverted or delimited, losing sight of educational goals that are not or cannot be covered by learning outcomes. If institutional management is not aware of the need for interpretation and of the support teachers need in this process, further ill effects might be seen: A learning outcome written based on a lifetime’s disciplinary and pedagogical experience might be seen as trivial to a novice given the responsibility for the course at a later date. As Reindal (2013) warned, there is a risk that teachers will be given roles and resources strictly in relation to learning outcomes. Reindal even suggested that unless the dangers of a naïve understanding of learning outcomes are addressed, there might eventually be a situation in which learning outcomes define what constitutes an ‘educated person’.

Given the widespread use of the learning outcome model and its influence (or assumed influence) on higher education practice, the critical voices cannot be ignored. Regardless of one’s position on the first kind of critique, concerning managerial purposes and quality assurance, the second kind of critique, concerning epistemological issues, alone calls for serious consideration, also by those
advocating outcome-based quality assurance (see also Lassnigg 2012). To explore this critique further, the matter of the epistemological shortcomings of the learning outcome model will be placed in the context of critical thinking as a purpose of higher education.

**Learning outcomes and critical thinking**

In the literature, the learning outcome model’s epistemological shortcomings are mainly seen in relation to disciplinary subject matter, but further aspects come into play when expectations concerning students’ critical thinking are added. Following the discussion above, this will be examined in relation to (1) interpretations of learning outcomes, (2) goals that cannot be expressed as learning outcomes, and (3) learning outcomes becoming a ceiling for student ambitions.

**Critical thinking and the interpretation of learning outcomes**

When learning outcomes are expected to cover critical thinking, the problem of interpretation suggested by, for example, Hussey and Smith (2002) becomes more complex because the interpretative framework needs to go beyond disciplinary content, as the interpretation must cover the concept of critical thinking as well. Further, the interpretation should also include an understanding of why critical thinking is a relevant outcome in the first place, and the interpretative framework must, therefore, include the purposes of higher education as well. Critical thinking can be expressed very differently in learning outcomes, from explicit references to the ability to ‘criticize’, to more elusive descriptions of ‘analysing’ or even ‘understanding’, if such an understanding is dependent on judgements and systematic scrutiny of complex material. These examples not only illustrate Hussey and Smith’s (2002) critique of the idea that learning outcome verbs give a clear picture of the difficulty of a module, but also explicate the complexity of interpretation. First, this is because an understanding of the purposes of higher education is needed for all interpretations of learning outcomes, even if they purportedly concern a limited aspect of disciplinary subject matter. Second, this is because learning outcomes including verbs such as ‘criticize’ will not promote critical thinking unless the teacher interprets them in such a way, and steers students in such directions. Otherwise, the ability to criticize might just as well be a matter of reproducing a critical discussion found in the literature or even uncritical acceptance of a critical discourse presented by the teacher, where attempts to gainsay these positions as a result of students’ own critical thinking may even be rebutted.

Taking these interpretations further, the formulation of learning outcomes is dependent on assumptions about how the learning outcome may possibly be understood by colleagues and students. Here, the teachers may be aiming to write a learning outcome that is also useful for a colleague who is inexperienced with critical thinking as a concept, but the limited format of learning outcomes is a hindrance here. In other words, the possible interpretation can be based on very different ideas about what critical thinking ought to be (regardless of the intentions behind the original formulation). The use of learning outcomes does not limit the need for colleagues to communicate – it necessitates their communication. Is a learning outcome about critical thinking a matter of emancipatory empowerment or a matter of scientific reasoning? Is critical thinking about finding as a basis for reliable judgements or about forming a sceptical position? When learning outcomes for educational programmes are defined at the national level, these issues become even more vital.

Summing up so far, the example of critical thinking demonstrates how disciplinary competence is only one aspect of teaching knowledge: It is in connection with pedagogical expertise concerning educational purposes as well as, for example, the concept of critical thinking that the entirety of teaching competence is found. This amalgamation of disciplinary and pedagogical competence is what Shulman (1987) labelled *pedagogical content matter*. The serious undertaking of interpreting learning outcomes about critical thinking also shows how pedagogical competence extends far beyond mere classroom practice.
If it is difficult for teachers to understand learning outcomes intended to cover critical thinking, the discussion above demonstrates that it would be even more difficult for students. However, the example of critical thinking also shows that it is an oversimplification to only see students’ interpretations in terms of limited disciplinary competence, as interpretation of learning outcomes calls for wider competence than that. Students bring with them ideas, roles and ambitions (or lack thereof), which influence how they interpret learning outcomes (or whether they read them at all). Student’s cultural background can also influence how they engage in critical thinking, and influence their willingness to engage in critical discussions in seminars (e.g. Lun, Fischer, and Ward 2010) In some cases, students’ ideological standpoints and ensuing opinions about what they regard as ‘accepted’ academic content may cause them to focus more on criticism than on critical thinking. If mixed with student cultures of the kind discussed by, for example, Morris (2015), where students call for the right to refuse to confront course content that is deemed disturbing or call for ‘comfort zones’ or ‘trigger warnings’, this may become even more volatile. This puts a new light on the ambition to make critical thinking a matter of emancipatory empowerment, as such a student attitude certainly challenges power while standing in contrast to the notion of critical thinking as non-judgemental scrutiny of new ideas. One conclusion is that this demonstrates how a disposition or willingness to communicate and exchange ideas actually is a vital aspect of critical thinking, as suggested by Andrews (2015), Barnett (2011, 2015) and Ennis (2015), something that might be emphasized more in discussions of critical thinking.

Goals of higher education that cannot be expressed as learning outcomes

As discussed by, for example, Reindal (2013), there are desired results of higher education that cannot be expressed as ordinary learning outcomes, either because they concern aspects of student learning that cannot be formalized or because students’ learning cannot be measured. In relation to critical thinking, both kinds of limitations can be found. If we want our students to develop a disposition for critical thinking that includes self-reflection or critical reflection on the world at large, these dispositions cannot be separated from the students’ private worldviews. Writing learning outcomes about such outcomes implies expectations of performativity that can be seen as an infringement on students’ academic freedom (e.g. Macfarlane 2017). Creating learning outcomes that specify the ‘correct’ outcome of critical thinking is contrary to the very idea of critical thinking, at least if we go beyond strict scientific reasoning. Here, there is a further limitation: Even if it is possible to measure these abilities and dispositions, few teachers would be expected or prepared to fail their students because they do not develop a disposition to think critically in their private life.

The next issue is learning outcomes that cannot be measured and therefore cannot be expressed as a learning outcome in the traditional sense. There are indeed a number of tests of critical thinking skills, as reviewed by Dumitru et al. (2018) as well as Liu, Frankel, and Roohr (2014), so that particular issue might be handled, depending on institutional policy and teachers’ competence, including their stance on psychometrics. A greater problem is the desired effects of higher education that cannot be recognized until long after the student has graduated. Life-long learning is a clear example, as it has been assumed since the days of Humboldt that a life-long interest in new knowledge is spurred by critical thinking. Still, the extent to which students will become life-long learners cannot be assessed. What can be assessed are the skills and dispositions to think critically in a particular context, in the hope that these will eventually promote life-long learning in other contexts as well. However, if life-long learning is left out of the explicit goals to be reached, both students and teachers will be easily diverted from this aspect of critical thinking and the connection will be easily forgotten, as will the importance of life-long learning as a rationale for developing critical thinking. This is a good example of the risk that using learning outcomes will
divert teachers’ attention away from important goals not covered by these outcomes, as discussed by Reindal (2013).

**Learning outcomes as a ceiling for student ambitions**

Learning outcomes as a ceiling for students’ ambitions is one thing when it concerns theoretical depth in disciplinary matters or the ability to use practical tools for data analysis. It is another thing, however, in relation to dispositions for critical thinking, where the ceiling issue becomes a matter of students’ attitudes towards knowledge and their willingness to assume responsibility for their own knowledge and intellectual development. Just as using learning outcomes can divert teachers from their academic responsibility, students can be diverted from theirs, by the naïve conception of intellectual development implicit in a list of fixed outcomes to strive for. Here, the wall of outcomes might conceal from the student the need for critical thinking and related issues. On the other hand, students’ limited interpretative frameworks might be the good news. Their restricted understanding of the learning outcomes might, in fact, be a protection against forming too firm a ceiling.

The notion of the ceiling can be taken further. If promotion of critical thinking includes defending students’ academic freedom and their right to disagree with their teachers, it is counterproductive to build in mechanisms that divert students’ ambitions away from following roads of inquiry guided by their own personal interests. The melting pot where critical thinking meets disciplinary subject matter creates situations where students’ developments can take unexpected paths. It might be that only a few students actually follow such a path or even have the capacity to follow it, but the rarer and more precious the experience is, the more it should be supported. Further, this is only seldom a matter of students disagreeing with a teacher, but instead a matter of students surprising the teacher, which also gives the teacher new insights. When all outcomes are defined beforehand, the system hardly supports students trying go the extra mile and teachers are hardly encouraged to reward students who go outside the box. Instead, teachers find themselves in the situation that Havnes and Prøitz (2016) warned about, where the use of learning outcomes fosters compliance.

**Conclusions and implications**

The purpose of the present paper was to analyse the extent to which the learning outcome model is compatible with the ambition to develop students’ critical thinking. Taken together, the study suggests that Reindal’s (2013) fear that the learning outcome model delimits teachers’ understanding can be even more prominent when critical thinking is added as a further component in the analysis. The example of critical thinking also explicates how the use of learning outcomes can reduce the agency of both teachers and students, as argued by Avis (2000).

While there are reasons for serious concerns about naïve use of learning outcomes, interested and responsible teachers ought to be able to use them as a tool for planning and reviewing courses, programmes, and particular lectures or seminars. After all, the critique of the learning outcome model is not a critique of the idea that education ought to be planned in accordance with what students are expected to learn. However, such a use of learning outcomes depends on teachers being given the academic freedom needed to formulate learning outcomes and to interpret already formulated learning outcomes. The teachers must also willingly assume the academic responsibility inherent in this freedom and engage in collegial discussions about the meaning of learning outcomes and issues such as critical thinking. If academic freedom is not given, or teachers are not willing or able to assume this responsibility, Hussey and Smith’s (2008) critical position is justified and learning outcomes can at best be a tool for planning a single lecture. Here, the risk associated with administrative models, such as strict application of learning outcomes, is that they hide the academic responsibility of both teachers and students behind formal structures.
Regarding students, the problems of learning outcomes are different, owing to their limited interpretative framework, which severely restricts the potential for learning outcomes to fulfill their assumed communicative functions. This is not a critique of the idea that students have the right to know what their teachers expect from them, but expectations have to be communicated in a way that makes them comprehensible. If we wish to follow Jaspers’ vision for higher education, where students are treated as responsible adults who are able to develop critical thinking skills, students can expect their teachers to engage them in dialogue about their expectations rather than devoting energy to finding the right measurable verbs, based on an administrative formality. Helping students understand what is expected of them is vital if they are to assume a student role where they see the point of being critical thinkers and striving to meet role expectations.

Learning outcomes might also be a viable tool for quality assurance as long as they are paired with an awareness of the unavoidable need for interpretation and the risks associated with naïve assumptions about measurable verbs. Quality assurance staff and academic developers need to look beyond the buzzwords and the convenience of one-size-fits-all simplifications and apply the same critical thinking they expect the students in their institutions to develop. Regarding institutional management, they must ask themselves whether the foremost goal is to promote critical thinking on all levels, or to apply a formal set of rules for how educational endeavours should be organized. This question shows the difference between the organization of education based on academic goals, on the one hand, and based on administrative goals, on the other. It should hardly be controversial to believe that if institutions of higher education are to meet society’s expectation by helping students mature into critical thinkers through their transition at university, it is academic goals that should be given precedence, also when systematizing the work of the teachers supporting the students.

Finally, there is a surprising lack of empirical investigations on how teachers and students actually interpret the learning outcomes formally imposed on them. Considering how important assumptions about students’ understanding are in the arguments for constructive alignment expressed by, for example, Biggs and Tang (2011), the critique offered by Hussey and Smith (2002) and others – developed further in the present analysis – call for empirical investigation. Those who promote the use of learning outcomes and constructive alignment ought to be particularly interested in empirical studies on how well the theoretical assumptions align with students’ reality.

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