

Why use learning outcomes in higher education? Exploring the grounds for academic resistance and reclaiming the value of unexpected learning

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Abstract Learning outcomes are now mandated in higher education courses across Europe. However, their impact on teaching and student learning is both uncertain and an issue for debate. In this paper, we explore (1) what is meant by learning outcomes in diverse contexts and (2) whether policy and practice governing learning outcomes accord with developments in learning theories, especially regarding sociocultural approaches that have drawn significant interest since the 1990s (Engeström 1987; Lave and Wenger 1991). Shepard's (*Educational Researcher*, 29(7), 4–14, 2000) publication is particularly salient to our examination due to her identification of an emerging paradigm to assist in the understanding of the relationships among teaching, learning and assessment. Employing recent work on conceptualisations of learning outcomes and a four-quadrant taxonomy (Prøitz in *Educational Assessment, Evaluation and Accountability*, 22(2), 119–137, 2010, 2014), we discuss relevant learning theory approaches. This article is a conceptual investigation exploring the grounds for the assumption that learning can be predefined in terms of (expected) outcomes. Specifically, we discuss this assumption from the perspective of recent developments in learning theories. We argue that introducing learning outcomes predominantly for policy and management purposes may actually weaken the learning outcomes' potential to direct teaching and learning and to improve the quality of both.

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1 Introduction

In many ways, the implementation of the European Qualifications Framework (EQF) is a marker of new ways of governing education and novel approaches to curriculum development, teaching, learning and assessment. This endeavour was already underway. Initiated primarily by the Declaration Bologna (1999), it involved European higher education institutions in a far-reaching process of rewriting curricula in terms of learning outcomes (LOs), extending the impact down to the programme and module levels, with '[t]he overall aim [...] to improve the efficiency and effectiveness of higher education in Europe' (Kennedy et al. 2007, p. 2).

A European Commission report on improving the quality of teaching and learning in Europe's higher education institutions argues that the Bologna Process has meant:

a complete change of [...the European...] higher education system and [a] higher education mind-set [...]. Today, there is a far-reaching—at least rhetorical—consensus that academic teaching should put the student at the centre by defining clear learning outcomes for the different programmes, courses and modules, and by attaching particular importance to counselling, monitoring and interactive modes of teaching (European Commission 2013, p. 32).

Under these terms, the implementation of LOs is at the core of a broad initiative for international quality improvement. The double intention of changing higher education systems and the mindset associated with teaching and learning practices addresses higher education institutions at two levels—(1) governance, management and quality control and (2) course design, teaching and learning. The implementation of LOs is a central aspect of a policy initiative, as well as a pedagogical undertaking. As such, LOs address diverse agentive positions, including policymakers at the national level, quality assurance agencies, institutional leaders, programme leaders, classroom teachers, clinical/placement mentors and students. The implementation of LOs is attributed to multiple purposes and might be ascribed different meanings in the contexts of these diverse agentive positions. The use of LOs is therefore dubious, with reference to this article's title—Who uses learning outcomes (and for what purpose)? A consensus about LOs risks masking the complexities and potential tensions inherent in the concept (Purser 2003).

In this article, we explore the understanding of LOs in the context of teaching and learning, bringing theoretical perspectives on learning to the foreground. However, there is no universally shared, research-based understanding or conceptualisation of learning. We have distinguished among three main sets of approaches to learning: behaviourist, cognitive and sociocultural/contextual theories. How LOs can be demonstrated and learned may be stated differently across these approaches. We question if there is or can be a shared understanding of how to state what students are expected to learn or have learned. Learning outcomes would have to be articulated in observable, behavioural terms from a behaviourist perspective, in cognitive and meta-cognitive

terms from a cognitive perspective and in participatory terms from a sociocultural perspective. To come to terms with the status of LOs in education, there is a need to explore the notion of LOs from diverse perspectives, as well as the various functions attributed to them in educational systems. We consider it particularly essential to address existing theories on learning that challenge the seemingly dominant understanding of LOs in European higher education policies (e.g. European Commission 2013) from the perspective of recent developments in theorising learning, assessment and the mutual relationship between learning and assessment that have emerged over the last 20–25 years (e.g. Biggs 1996; Birenbaum et al. 2006). For the process of improving the quality of higher education, it is vital to critically explore the relationship between theories of learning and concepts of LOs. Our article contributes to the understanding of the tensions among LOs as tools serving both pedagogical and policy purposes. From the varying perspectives of research on learning, our paper also demonstrates how LOs can be understood in diverse, potentially conflicting ways.

We elaborate on some core dilemmas inherent in the idea that what students will learn can be specified and made explicit prior to the process of learning. After briefly situating these dilemmas in earlier research on LOs, we raise two research questions (see the next section). We synthesise and discuss the challenges in conceptualising and implementing LOs, including the tensions among the disparate intentions that these LOs are intended to accomplish, the policy to transform higher education and pedagogy and the course design to improve student learning. Next, we explore the challenges in stating LOs prior to the learning process from the perspectives of sociocultural and contextual learning theories and dialogical and self-regulated learning. These viewpoints have gained increasing interest over the last 25 years—which we refer to as recent developments.

2 Dilemmas about explicit learning outcomes

Kennedy et al. (2007) define LOs as ‘clear statements of what the learner is expected to achieve and how he or she is expected to demonstrate that achievement’ (p. 6). Their definition is clearly valued as it is also presented in the *Bologna Handbook* (European University Association 2006) and joins a long list of similar definitions used in documents to support the implementation of LO-oriented approaches. However, this definition contrasts with the arguments in other types of LO literature in which related issues are often discussed and problematised for being too limited, technical, rational and oriented towards purposes of managerialism rather than of teaching and learning (e.g. Au 2011; Hargreaves and Moore 2000; Hussey and Smith 2008; Prøitz 2015). The definition of Kennedy et al. (2007) emphasises the *outcomes* of learning rather than its process. Nonetheless and paradoxically in some ways, the idea that the criterion of competence is what someone can *do* downplays the importance of how the person arrives at this competence. Two basic premises follow from this definition. First, it assumes that student learning can be made explicit and, once acquired by the learner, can be demonstrated by ‘doing’ in some precise meaning of the term. Second, once made explicit, learning can be understandable for students prior to (and/or independent of) the learning process. In this paper, we are left with the following key questions: For whom are LOs written—for students or for teachers? To whom are they clear?

Furthermore, some multilayered concepts and intricate skills might not be easily clarified since making them explicit might hamper learning.

The idea that LOs matter the most and the claim that students should know what is expected of them are both intuitively meaningful. These concepts also align with developments in research on assessment and the relationship between assessment and learning, dated by Shepard (2000) from 1990 onwards (e.g. Biggs 1996; Black and Wiliam 1998; Ramsden 1992/2003). Nevertheless, in examining central aspects of learning in relation to well-known traits of LOs, several dilemmas seem to persist, to which we now turn. Examples include the following issues:

- *Unexpected learning*: This is inevitable as a potential alternative outcome, for instance, students coming up with ideas, solutions or questions that shed new light on fields of knowledge or practice (Bateson 1972; Biesta 2010; Eisner 1979). Such unexpected contributions should be appreciated but cannot be fully stated ahead of the learning process.
- *Abstraction*: In line with Bateson (1972), some knowledge may be difficult to specify due to their level of abstraction (e.g. independence or creativity). At one level, a student may demonstrate accomplishment according to expectations, while having ideas about the learned topic that question its relevance, for example. Even when LOs are clearly stated, what students actually learn is uncertain due to the unfolding nature of learning. Furthermore, expertise might imply explicit knowledge becoming implicit and beyond elaboration (Dreyfus and Dreyfus 1986; Engeström 1987; Nonaka 1994). An expert may therefore be unable to explain precisely what is learned at an early stage of learning in a discipline or a profession.
- *Contestability*: Most LOs address dominant knowledge, which needs to be generally challenged (Popper 1959) and particularly so in higher education where emphasising uncertainty is a core value. The focus on prescribed LOs might risk being in conflict with the epistemic culture (Knorr Cetina 1999) of higher education. Questioning established ‘truth’ is a key dimension of higher education culture.
- *Meta-level learning*: Explicit formulations of curricula, LOs and didactic practice often overlook more or less hidden aspects of teaching, learning and assessment (for instance) in terms of the hidden curricula (Snyder 1971) or peer-mediated socialisation within the student role (Havnes 2008). When striving to achieve a clearly stated LO, students may learn about themselves as learners, potentially forming an identity and developing ideas about the learning context. All of these are LOs that are neither stated nor regarded as guiding the learning process. Of course, if they are stated, they form a basis for potentially new subjects of meta-level learning.

Attending to these dilemmas does not imply that it is impossible or meaningless to make explicit what students are expected to achieve and how they should demonstrate what they have learned. However, there are reasons for questioning the idea that what students are expected to learn—and will be able to demonstrate—can be prescribed in advance and in a way that they can comprehend prior to their own learning. Finally, we could question if prescribed LOs, at least in some cases, might foster compliance rather than critical, analytical thinking.

By way of contrast, the literature also includes strong critics (e.g. Allais 2012; Allan 1996; Brady 1996; Hussey and Smith 2003, 2008; James and Brown 2005; Lassnigg 2012; Smythe and Dow 1998; Young and Allais 2011). Although these contributions take varying perspectives and focus on different issues, they can be described as multiple warnings against the application of a too narrowly defined and restricted LO concept in governing education. Critics also warn against the danger of using LOs in ways that can be more technical and rationalistic than productive in education.

With this range of opinions as a backdrop, our primary research questions are as follows:

1. What is meant by LOs in diverse contexts of discourse, and how have these ideas emerged?
2. How do LO policy and practice accord with recent developments in the theorising of learning?

The next section addresses the first question. We start with a brief review of the LO literature, addressing its history, as well as disparities in conceptualisations and attribution of meaning to LOs. Then, we address the challenges of implementing LOs in higher education due to the conflicting ways of understanding them across policy and pedagogical frames of reference. Our main interest in this aspect is to explore the potential conflicts inherent in the multitude of interests and functions that LOs are expected to serve—focusing on policy and pedagogy as interpretive positions.

Next, we address the second question. We discuss the theorising of learning that challenges the idea of making learning explicit and stated prior to the learning process—with an emphasis on valuing unexpected learning. By explaining the tensions inherent in the *LO concept* in terms of being attributed meaning as both a policy/management tool and a pedagogical tool, we shed new light on the challenges of implementing LOs in higher education.

3 History of learning outcomes

The term ‘learning outcome’ is closely linked to the history of another highly relevant term in the field of curriculum development—‘teaching and learning objective’ (Allan 1996; Burke 1995; Eisner 2005; Ewell 2005; Jessup 1995). The fact that the two terms are often interconnected in the literature makes it difficult to distinguish between them (Allan 1996). The development of the LO concept is described as a linear process, starting with the objectives movement and continuing through the mastery learning theories before ending up with the current, outcome-based education (OBE) movement (King and Evans 1991; Prøitz 2010; Spady and Marshall 1991). Here, we briefly address the American and European approaches, followed by putting the students in the centre, which was emphasised by cognitive psychologists (e.g. Zimmerman and Schunk 2001) and educational developers (e.g. Ramsden 1992/2003) and later included in the European higher education policy (European Commission 2013; Kennedy et al. 2007).

4 Outcome-based education movement

There are OBE advocates in the United Kingdom (UK) (e.g. Jessup 1995) and the United States of America (USA) (e.g. Spady 1988, 1994; Spady and Marshall 1991). Those favouring OBE claim that it is applicable to all forms of learning, accessible to far more individuals, efficient and cost-effective. It is also flexible since learning objectives are specified as outcomes independent of traditional learning and assessment processes, thus allowing different modes, contexts and time scales of learning (Jessup 1995, p. 36).

The origins of OBE can be traced to several key ideas in American education (Furman 1994), including Tyler's (1950) *Basic Principles of Curriculum and Instruction*, the principles of mastery learning inspired by Bloom et al.'s (1956) taxonomy and Mager's (1975) work on behavioural objectives, as well as a movement towards criterion-referenced assessment as described by Glaser (1963) (see also Furman 1994; King and Evans 1991). These ideas have been fed into a favourable social context in the USA, under the pressure of providing evidence of student achievement and accountability (Brady 1996; King and Evans 1991). The initial popularity of OBE in the USA has been explained by the fact that it seems to offer something for everyone, as politicians, business people, community leaders and educators can relate to exit outcomes. Moreover, OBE may be effective in coupling control and autonomy within a decentralised logic of steering (King and Evans 1991). It affords central-level authority by setting exit outcomes and simultaneously giving educational institutions the autonomy to decide how to achieve these outcomes (King and Evans 1991).

5 European approaches

The European discussion on LOs post-dates its American counterpart (Lassnigg 2012) and is closely related to the implementation of, first, the EQF and, subsequently, the National Qualifications Framework (NQF). The European discussion can be viewed as building on the qualification frameworks developed in the UK in the 1980s; in turn, these reflected concerns about future workforce competence (Burke 1995; Melton 1996; Young 2003). In the European context, a qualification framework is considered a major new policy device in governing education and training (Lassnigg 2012). However, the emphasis on LO in Europe has also been grounded in a pedagogical rationale—a growing focus on LOs harmonised with the increasing concentration on learning and the call for integrating teaching, learning and assessment. Many educational researchers have highlighted the LOs' formative function of providing guidance and direction in student learning (Ramsden 1992, 2003). For instance, the notion of constructive alignment (Biggs 1996; Birenbaum et al. 2006; Shepard 2000) is based on the fundamental idea that assessment drives learning. Stressing the need to develop an *integrated assessment system*, Birenbaum et al. (2006) call for more emphasis on assessment for learning (AfL) and assessment as an integral part of curriculum design and practice. As assessment research has become linked to a constructivist paradigm, the understanding of learning as 'an active process of mental construction and sense making' (Shepard 2000, p. 6) has been foregrounded.

These approaches underscore the need to embed assessment structures and practices in a conceptualisation of learning as ‘part of the learning process’ (Shepard 2000, p. 10). Gielen et al. (2003, p. 51) are among the advocates of another appeal to involve ‘students as active partners in the assessment process’. This also addresses the need to embed assessment in the learning and teaching processes. These ideas are also recognisable in the policy-oriented literature focusing on implementation. For instance, according to Kennedy et al. (2007, p. 19), ‘there is a dynamic equilibrium between teaching strategies on one side and learning outcomes and assessment on the other side’.

6 Learning outcomes: student learning in the centre

In the European context, the interest in LOs has been particularly linked to constructivist approaches to learning, underpinned by an increasing concern for student approaches to learning (Biggs 1996; Marton et al. 1984; Ramsden 1992/2003), alongside a growing awareness of assessment’s impact on student learning (Biggs 1996; Resnick and Resnick 1992). Educational developers, particularly those based in the UK, have taken an active role in transforming teaching to align it with a constructivist approach to learning. One such measure is the development of descriptors to inform students about what they are expected to learn (e.g. Baume 2009; Gosling and Moon 2002). Educational developers’ efforts have been in line with previous calls by Jessup (1995) and Spady (1988) to treat LOs as ‘part of transforming and democratising higher education by enabling it to become more open, flexible, and responsive to student needs’ (Gosling 2001, p. 273). Since working with LOs requires specification of the desired outcomes a priori to the design of the educational programme, using them encourages curriculum development that involves a reversal of more content-based practices (Furman 1994; Killen 2000; Spady 1988). Particularly, using LOs to steer curriculum design requires alignment among three elements of the curriculum—intended LOs, learning and teaching activities and assessment methods (Biggs 1996). This model of constructive alignment underscores the importance of coherence among assessment, teaching and learning at both programme and practice levels (Biggs 1996; Birenbaum et al. 2006). This alignment with a constructivist approach to learning creates a fundamental pedagogical dilemma. On one hand, students need guidance about what they are expected to learn and what is emphasised in assessment. On the other hand, a fundamental assumption in the constructivist paradigm is that what students learn is based on their own learning activities. The fact that students take control of their own learning has been associated with this pedagogical approach to LOs, which also implies some level of flexibility in the appraisal of their achievements. For instance, Black and Wiliam (2009, p. 18) argue, ‘The aims of any instruction are usually a combination of aims specific to the subject and aims directed to improving learning skills. For many teachers, the former are explicit and the latter only implicit. The formative practices [...] reflect very general principles of learning, notably social constructivism and meta-cognition’. The constructivist approach emphasises developing the learning capacity of students, as well as subject-specific aims. However, meta-learning, such as ‘learning to learn’, requires subject-specific learning (Bateson 1972).

7 Conceptualising learning outcomes: contrasting perspectives on learning

The previous sections have described the evolution of thinking about LOs and their various influences on pedagogy, policy and curriculum development over several decades and across continents. Here, we turn to recent work on the concept of LOs and a model for different conceptualisations of LOs as discussed by Prøitz (2010). Prøitz grounds the model (Fig. 1) on Gagné's (1974) and Eisner's (1979) discussions about the LO concept as useful for instructional design and planning. Gagné has been recognised as a behaviourist (Burke 1995), while Eisner has been considered a pragmatist and social constructivist (Allan 1996). Hence, Gagné and Eisner represent two perspectives on learning that are accompanied by different views on LOs (Prøitz 2015).

Gagné (1974) and Eisner (1979) have both made key contributions to the LO discussion. According to Gagné, an LO 'makes possible a refined understanding of the learning process and thus permits a drawing of relatively precise implications for the design of instruction' (1974, p. 51). In contrast, Eisner views LOs as 'essentially what one ends up with, intended or not, after some form of engagement' (1979, p. 101). Gagné is concerned with instructional design and interested in the learning required to accomplish tasks involving planning and sequencing. On the other hand, Eisner pays attention to the curriculum's role in learning. Describing the 'trichotomy of outcomes', he argues that LOs are partly dependent on the student, the subject matter and the teacher (1979). According to Eisner, the result is an inability to sort all learning into prespecified LOs. Both Gagné and Eisner are sympathetic to LOs although they use divergent conceptual frameworks, which illustrate the deviating character and potentially conflicting conceptual landscape in which LOs are applied and attributed meaning. Particularly, LOs are positively associated with diverse conceptualisations of learning, assessment and curriculum design (to which we will return).

Gagné's (1974) and Eisner's (1979) different theoretical perspectives represent inherent tensions in approaches to LOs. In Eisner's view, LOs are characterised as emerging, process-oriented and open-ended, with limited measurability. In Gagné's

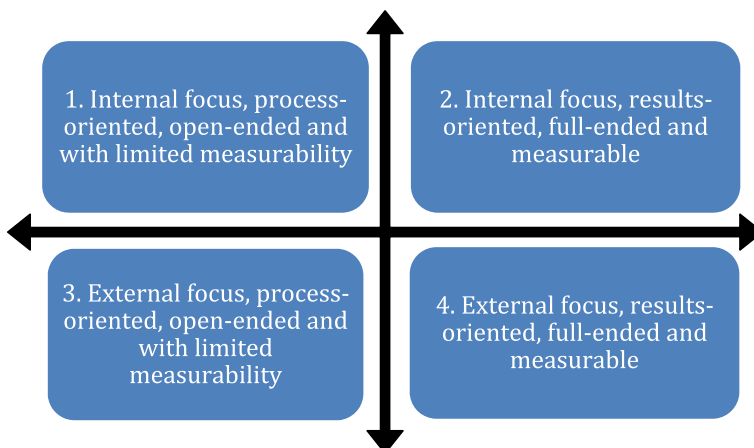


Fig. 1 Conceptualisations of learning outcomes (Prøitz 2014)

opinion, LOs are characterised as results oriented, predefined, full-ended and measurable. These tensions are illustrated by the horizontal axis in Fig. 1.

Adding another level of complexity, the relevant literature also describes different conceptualisations of the purpose of LOs. These conceptualisations can have an internal focus, serving as tools for educational and instructional planning, curriculum development and teaching and learning processes, which dominate the educational development approach. Alternatively, such conceptualisations can have an external focus, where they can be used for measuring effectiveness and accountability, which is predominant in the policy approach. The vertical dimension in Fig. 1 illustrates potential tensions between a policy-oriented approach (which emphasises governance and accountability) and a pedagogical approach. The result is a four-quadrant matrix combining learning and purpose orientations. Thus, a multilayered set of tensions is generated in the conceptualisation and application of LOs.

In this paper, we primarily focus on the learning orientation dimension (the horizontal axis), particularly the internal dilemma about the diverse conceptualisations. However, it is also worth considering how the policy purposes may drive the educational aspects and functions of assessment in a particular direction. In other words, as the policy perspective is applied to transforming education, the conceptualisations of LOs in the context of educational practice may be pushed to align with the policy purposes of LOs.

When mapped according to learning and purpose orientations, the range of conceptualisations identified in the LO literature illustrates various competing understandings. Figure 2 illustrates tensions in the scholarly literature concerning the definitional knowledge about LOs. In a literature review, Prøitz (2014) exposes diverse forms of bias in approaches to LOs, based on the definitions used. The majority of authors address the discussion on instructional planning, curriculum development and learning, with European (especially the UK) scholars framing LOs more in the process-oriented, open-ended dimension than their US colleagues. These contributions largely deal with the issue from the perspective of how to integrate LOs in teaching, learning and assessment at programme and module levels, that is, integrated in the curriculum design and the daily practices of teachers and students.

Not surprisingly, authors tackling LOs from a policy perspective tend to prioritise predefined, full-ended definitions. For governance and accountability purposes, the precise, predefined and full-ended LO model provides a basis for outcome-oriented, comparable indicators across institutions and over time. The implementation of LOs in many European countries is highly driven by policy. Diverse LO rationalities meet in these processes.

For instance, when educational developers are involved in implementing the policy-oriented version, problems may occur. Their approach to LOs may typically be in the upper-left quadrant of Fig. 1 and will conflict with the premises of the lower-right quadrant, on which the policy perspective is largely based.

In a recent article, Handal et al. (2014) explore how educational developers in Norway and Sweden have engaged in implementing the EQF in educational programmes. They argue that when academics become involved in reformulating curricula in terms of an LO rationale, an expected reaction would be a combination of compliance and resistance. These authors find that the policy perspective ‘reduces the complexity of the situation’ (Handal et al. 2014, p. 22). This context implies a decrease in the complexity of the LO concept. As argued earlier, educational developers tend to be sympathetic to explaining to students what is expected of them and at the

Educational and instructional planning, curriculum development

Process-oriented, open-ended, limited measurability	Eisner USA (1979), Hussey & Smith UK (2003, 2008), Buss UK (2008), Davies UK (2002), Otter UK (1992), Avis UK (2000), James & Brown UK (2005), Reese UK (2004), Allan UK (1996), Capper & Jamison USA (1993), Hargreaves & Moore CAN (2000)	Gagné USA (1974), Biggs & Collis AUS (1982), Brown USA (1988), Harden et.al UK (1999), Morcke et.al DK(2006), Moon UK (2005), Adam UK (2004), Melton UK (1996), Spady & Marshall USA (1991), Spady USA (1988), Burke UK (1995), Ewell USA (2005), Wilson et.al USA (2000)	Result-oriented, full-ended, measurable
	12	13	
	Malan ZA (2000), Furman USA (1994)	Wagenaar USA (2002), Brady AUS (1997), King & Evans USA (1991), Smythe & Dow AUS(1998), Nusche International (2008), Cochran-Smith USA (2001)	
	2	6	
	Accountability		

Fig. 2 Matrix of learning orientation and purpose orientation (N=33) in definitions of learning outcomes (Prøitz 2010)

same time hold on to the LO concept at some level of open-endedness. Situated in the academic culture of higher education, they are also inclined to value the autonomy of teaching, which also accounts for student learning to some extent.

Handal et al. (2014) find that in assisting with the implementation of the LO model, education developers do not execute the task as a technical exercise (p. 23); instead, they interpret and translate the policy agenda and protect and attempt to preserve the complexity of the educational setting. They argue in line with Stensaker’s (2008) point that educational policy implementation at the institutional and departmental levels implies ‘interpretation and translation’ and ‘creative implementation of public policy’ (p. 426). They attribute their own meanings and understandings to the term *learning outcome*.

More broadly, the LO model implementation in higher education might confront disciplinary epistemic cultures (Knorr Cetina 1999) and notions of learning in the disciplines and professions that conflict with the idea of prescribed, full-ended LOs. Such concepts dominate the policy approach but might seem reasonable in the governance and accountability context (Prøitz 2014, 2015).

Implementing LOs in education implies a return of the ideas that were largely developed in the context of critical analyses of dominant educational practices—but now with weighty policy connotations. When the implementation reaches the academic staff members who are mainly concerned about student learning and disciplinary and professional standards, the dilemmas inherent in conceptualising LOs surface. From the perspective of research on learning and assessment, the LO model is both appreciated and challenged. The policy and educational contexts are loosely coupled systems. They rest on diverse frames of reference, meaning-making codes and values. For instance, compliance is a positive term in the policy implementation system but disputed in an educational system.

In contrast to Handal et al. (2014), Caspersen and Frølich (2016) find that institutional leaders in Norwegian higher education accept the EQF and perceive it as a timely and needed device to improve the quality of teaching and learning. It illustrates the manifold dimensions of LOs and inherent dilemmas about them as pedagogical and policy concepts. As LOs are intended to serve many purposes and attributed diverse meanings by a wide range of agentive positions, an interpretation of LOs within one frame of reference risks being meaningless or problematic within another frame of reference. The dilemmas seem to emerge at the level of implementation in the institutional context—when policy intentions reach educational practice. As stated in the European Commission (2013) report, there may well be ‘far-reaching—at least rhetorical—consensus’ about LOs putting the student in the centre of the educational process. When ideas that are grounded in pedagogical initiatives return to academics as policy imperatives, the contested nature of LOs is masked, and the agreement might be rhetorical only. The contested nature of LOs can be further discussed by exploring diverse ways of conceptualising learning processes and outcomes.

8 Learning outcomes and theories of learning

Greeno et al. (1996) classify theories of learning under three categories—behaviourist, cognitive and situative (sociocultural) theories—each shaping the premises about teaching and assessment differently. A behaviourist approach to LOs implies a quantitative measurement of skills and knowledge. Its judgements are applied in a particular sequence—first, judging a broad set of knowledge components and their competence levels individually and then creating an overall profile in terms of ‘how much of the domain a student has acquired’ (Greeno et al. 1996, p. 37). The rationale is that competence is demonstrated through the accumulation of sets of components of information and skill(s), each representing a building block in a complex configuration of professional competence. Compared to the behaviourist paradigm, scholars adopting a cognitive approach emphasise conceptual understanding and reasoning across a wider spectrum of knowledge and skill components. A focus on multiple ways of learning that present challenges to the Westernised view of intelligence can also be expected.

For example, Gardner's (1983) concept of multiple intelligence might be used to further support this viewpoint. While the behaviourist approach emphasises testing a wide range of components, the cognitive approach highlights assessment through the analysis of complex tasks. The third paradigm, the sociocultural approach, further expands the perspective in that individual competence is framed as an aspect of an activity system within which the person learns. The sociocultural focus would be on participation in social practice rather than on the individual learner's characteristics. Sociocultural learning implies socialising or enculturation in communities of practice and in the process, adopting their social, cognitive and material practices and potentially transforming social practices. However, this does not exclude the perspective on the individual. The subjective aspect of learning is also essential. For instance, a core feature of human functioning within a social structure is the capacity to alter the situation in which the person finds oneself, which again might change the affordances for the individual (Gibson 1986). Such an agentic approach to learning emphasises learner opportunities to shape their own engagement in learning, create learning conditions and enhance their own learning.

Shepard (2000) concludes that the dominant approach to assessment is grounded in the behaviourist paradigm. The question becomes whether or not elements of the behaviourist approach to LOs are indeed identifiable in the European higher education context. For instance, in their LO literature review using Bloom's taxonomy (Bloom et al. 1956), Kennedy et al. (2007) present an extensive list of examples, all at a general level. However, if LOs are able to inform students about what they are expected to do, as well as guide teachers in terms of what to emphasise, this would imply creating LOs that are explicit, detailed and concrete. This requirement applies to all LOs at the programme, module and session levels (Kennedy et al. 2007, p. 5), which is obviously challenging. The next paragraph outlines how detailed explicitness might conflict with recent developments in how learning is conceptualised.

For an example of how using detailed, concrete and explicit LOs might cut across concepts about learning, we turn to Biesta's (2010) notion of 'learnification'. This refers to the tendency to restrict education through the application of LOs with an emphasis on student qualification. 'Socialisation', defined as learners becoming "part of particular social, cultural, and political 'orders'", is neglected (Biesta 2010, p. 20). The same risk applies to what Biesta calls 'subjectification', referring to an essential aspect of education that 'allow[s] those educated to become more autonomous and independent in their thinking and acting' (p. 21). Biesta's point is that educational quality builds on the combination of qualification, socialisation and subjectification in all subject areas. To paraphrase Biesta (2010, p. 7), it could be asked whether too much attention is paid to qualification and LOs and too little to what learning is for (the purpose orientation in Fig. 1), beyond meeting preset standards.

In Vygotsky (1962, 1978), we find another learning theorist whose framing implies that an LO—or even learning itself—is not the ultimate goal. Emphasising learning as a precursor to development, Vygotsky (1978) introduced the now well-known concept of the *zone of proximal development*. It describes the manner in which participation in problem solving under adult guidance and/or in collaboration with more capable peers serves as a forerunner to a child's development. Reframing this notion for higher education, interpersonal problem solving shows that attaining LOs is a forerunner of a student's professional or disciplinary development.

In a series of studies on the development of scientific concepts in childhood, Vygotsky (1962) addresses the relationship between instruction and development. Although he uses the term *psychological investigations*, these studies are relevant to assessment. Particularly, he finds that assessment could make an impact on children's progress if (instead of just stating their current level of development) it is used to inform future teaching and learning initiatives. A key idea in Vygotsky's theory of learning and development is that a phenomenon at one point in time must be understood from the perspective of its development. For instance, a student's here-and-now achievement is a temporary state and should be explored as a process, including attention to direction and the potential for further learning and development. Defined in this way, assessment serves to determine the student's actual developmental stage and to clarify his or her potential for further learning.

Vygotsky (1962) distinguishes between learning and development while underscoring the interaction between these processes, a distinction that Black and Wiliam (2009) and Havnes (2013) also emphasise in the context of assessment (for an elaboration on Vygotsky's differentiation between learning and development, see Chaiklin 2003). While learning is specific, development concerns 'the whole child [or student], as an integral person, not a particular skill or the meeting of an assessment criterion or a specific predefined learning outcome' (Vygotsky 1978, p. 46). In this regard, learning specific skills is a prerequisite for development. Learning 'creates the zone of proximal development [...]. [L]earning is not development [...] [but] a necessary and universal aspect of the process of developing culturally organized, specifically human, psychological functions' (Vygotsky 1978, p. 90).

Vygotsky's distinction between learning and development is essential to this analysis. For instance, professional education leads to the development of professional competence. It implies being included in a community of professional practice and gaining trust from society and the public to act independently as a professional. Becoming a professional involves securing a position in society, depending on who a person is as a professional, not just on the skills that one possesses or the knowledge that one can demonstrate. For instance, for a patient undergoing surgery, agreeing to do so implies an act of trust. For a surgeon, performing an operation implies an act of responsibility. Learning skills and solving problems are both steps towards the development of the whole person. In reframing Chaiklin's (2003, p. 43) insights to align them with the higher education context, the development of professional expertise is not mainly concerned with the improvement of a skill or with any particular task. It also relates to [students' professional] development, which, in turn, brings the integrative aspect of higher education into focus. A parallel in higher education research can be found in Pascarella and Terenzini's (2005) extensive work, which places considerable emphasis on identity and personal development as outcomes of higher education.

In line with these ideas, Wertsch (1998) refers to studies of identity development among Estonian students after the Soviet empire's collapse (see Tulviste and Wertsch 1994). Wertsch distinguishes between 'mastery' and 'appropriation' of conceptual knowledge, in relation to Estonian history in this case. While mastery is characterised by 'learning how to do' (pp. 46–53), appropriation implies 'making something one's own' (pp. 53–58). Two implications follow. On one hand, mastery may occur without appropriation. In Wertsch's example, Estonian students are able to demonstrate detailed knowledge about the Soviet version of Estonian history but do not trust or appropriate

it. On the other hand, they appropriate the Estonian version of the same events but cannot demonstrate detailed knowledge about these. Similarly, in a study involving first-year students taking an introductory course in philosophy, Havnes (2008) finds that academic learning goes beyond curricular learning. The philosophy students demonstrate knowledge ‘beyond’ that expressed in the syllabus—their ‘extra’ learning is mainly at a meta-level of knowing that is consistently linked to their curricular knowledge. Havnes concludes that meta-knowing ‘could only be reached through knowing the curriculum’ (2008, p. 201). In Biesta’s (2010) terms, Havnes’ findings imply that qualification or achievement in accordance with LOs is not a separate process but could also be interdependent with socialisation and subjectification.

To further complicate the issue, in a study of post-secondary education, Torrance (2007) addresses the danger of structuring assessment in an overly narrow manner. He concludes that assessment procedures and processes completely dominate the teaching and learning experience in the vocational programmes under his consideration. The extensive use of explicit assessment criteria and follow-up in supervision and feedback might bring about an approach to teaching and learning whereby “[c]riteria compliance’ [would] replace learning” (Torrance 2007, p. 282). The extensive use of LOs and assessment criteria might risk resetting the horizon of learning or situate learning in the context of passing tests or achieving specific LOs, instead of perceiving these as milestones in an expanded qualification process.

Likewise, Engeström (1987) takes as his starting point ‘the futility of learning’ (pp. 21–26), especially in relation to the commonly shared notion that places problem solving as the highest and most cognitively advanced type of learning. He states, ‘The problem is that problem solving and structuring are essentially *reactive forms of learning*. Both presuppose a given context which presents the individual with a pre-set learning task’ (p. 1). He distinguishes between learning the ‘given new’ (i.e. what is known to someone other than the learner) and the ‘created new’ (i.e. what is historically new) (Engeström 1987, p. 174). Although higher education entails learning the ‘given new’ to a great extent, Engeström frames the primary learning problem as learning the ‘created new’. This might be the case in higher education where, by and large, students’ learning potentially expands beyond academic, professional and social standards. However, expansion does not happen in a vacuum. Preset and predictive standards, expressed through LOs and assessment criteria, are necessary steps towards ‘created new’ goals. In other words, learning the ‘given new’ and the ‘created new’ is intertwined.

We find a parallel approach in Bateson’s (1972) theory of learning and communication. Instead of preset goals, he regards ‘direction’ and ‘values’ as more appropriate concepts in understanding learning, looking for “‘direction’ and ‘value’ in the chosen act rather than in defined goals” (p. 162). He argues that learning can include ‘free will, predestination, responsibility, constructiveness, passivity, dominance, etc. [...], which are] all, in some sense, by-products of the learning process’ (pp. 164–165). This viewpoint may imply not only achieving expected LOs but also valuing the by-products of learning as equal to the preset and predicted outcomes, even when they take another form or oppose the expected LOs.

Another key point in Bateson’s (1972) conceptualisation is the distinction among diverse levels of learning. In brief, learning specifics is one level, while learning to cope with the former is another. For instance, students may learn to perform according to a specified, prescribed LO and simultaneously come to terms with learning to learn in

conformance to listed LOs. Students may (and often will) learn that achieving LOs is a particular challenge and a competence in itself; students learn to become students. Moreover, teacher-students learn to become student-teachers, and students of engineering learn to come to terms with mastering engineering subjects. In Bateson's terminology, these two modes of learning are labelled learning I (the preset learning) and learning II (learning to learn).

When confronted with the arguments of Bateson (1972), Biesta (2010), Vygotsky (1962, 1978) and Wertsch (1998), trusting in preset LOs in their specific, descriptive and full-ended form becomes problematic. Moreover, depending on how it is applied—particularly regarding the degree to which a policy perspective is imposed on the pedagogical application of LOs—the very nature of learning, its emergence through active participation in disciplinary and professional activities, risks being given less priority and attention. In its extreme, a predefined, full-ended version of LOs that is prioritised in the policy-oriented literature might foster reactive learning, that is, students' compliance with preset standards, instead of becoming part of a professional or disciplinary community in which breaking new ground is a key value. While compliance might be valued from a policy/governance perspective, from a learning/academic perspective, not only recognising but also going beyond conforming to dominant standards are appreciated. From these perspectives, the point is not to argue for or against LOs but to call for a critical approach to how these are and should be used—in various contexts, for diverse purposes and at different levels and sectors of education.

9 Conclusion

While transparency and students' understanding of disciplinary and professional standards are key aspects of any curriculum, our paper illustrates the more problematic features of applying LOs that are expected to be full-ended and predefined. From a learning perspective, it might be insufficient for students to simply perform according to expectations because they might comply without appropriation. There is a need in education to transcend the declaration of explicit LOs and assessment criteria. Nonetheless, learning without explicit expectations could potentially lead to learning by trial and error. It would require time-consuming guesswork by using hidden or implicit cues to figure out what matters and/or what is expected.

Despite the dilemmas elaborated above, the LO movement and theories of learning come together in foregrounding learning and in placing student achievement in a primary position in the educational process. As a result, feedback becomes a core mechanism in understanding and promoting learning. Learning outcomes clearly direct teaching and students' learning activities, opening the way for feedback and dialogue between and among teachers and students. Moreover, LOs can support internal dialogue and enhance self-assessment.

Our paper indicates that introducing LOs solely for purposes of managerialism, efficiency, benchmarking and control of student learning may weaken the functions of LOs that can otherwise provide direction to teaching and learning processes. The essential qualities of the initial initiative of using LOs for the purpose of directing teaching and learning activities seem to have been diminished in the policy discourse on LOs. The value of the processes of working with LOs in teaching and learning seems to be under-communicated as a consequence of the shift from teaching and

learning practices to the use of LOs as policy devices to support mobility, assure accountability and promote political initiatives. From a policy perspective, LOs constitute a system ‘from above’. As a result and probably unintentionally, the behaviourist approach to LOs can be claimed to have gained ground, leading to competence conceptualised as ‘to-do’ achievements that can be specified and observed. The only factors that count are those that can be operationalised.

There is the danger that the nature of policymaking, recognised as the need to simplify concepts in order to build uniform systems and achieve unity in decision making (Prøitz 2015), might lead to the loss of the essential aspects and values inherent in working with LOs. Oversimplification of learning processes, combined with persuasive and urgent political purposes, can have a significant impact on education development. Nevertheless, complexity is not easily overridden. When academics in institutions and departments apply the LO concept in curriculum development, course design and teaching practices, the complexity of LOs is commonly reintroduced, and the contested nature of knowledge and learning surfaces again.

This discussion has primarily focused on the horizontal axis in Fig. 1, that is, the diverse interpretations of LOs as linked to different perspectives and understandings of learning. To understand how LOs serve various purposes, the vertical dimension—the relationship between a policy and pedagogy as potentially conflicting frames of reference—should be included. In the European and broader contexts, LOs in higher education, as well as in general education, are profoundly linked to political interests and agendas.

This article has demonstrated the ambiguity of the LO concept from the perspective of learning theories, along with the challenges of implementing LOs in teaching and learning cultures of higher education. This somewhat vague LO concept is attributed diverse meanings and potentials as it is taken to encompass various purposes and to serve the agendas of both policy and pedagogy. Further research is needed to focus on what types of LOs might give sound directions to teaching and learning processes in the policy-pressured landscape of higher education, that is, to emphasise the pedagogical aspects of the LO concept. It is particularly essential to address the relationships between conceptualisations of learning and the LO concept.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest (financial or non-financial). The analysis is theoretical and does not include informants.

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