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Never mind the gap: Formative assessment confronted with Dewey's and Gadamer's concept of experience

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Abstract

The notion of "closing the learning gap" is widely used in the conceptualisation of formative assessment. It builds on an unarticulated assumption that students' learning can and should be controlled towards predefined outcomes. This article discusses this control assumption in the light of the concept of the American philosopher John Dewey and the German philosopher Hans-Georg Gadamer. Their conceptualisation challenges the idea of learning as a linear and controllable process that results in stable and predictable outcomes. Using the concept of experience, we argue that learning follows a continuous circular movement where previous experiences condition future interpretations and that every experience changes the subject. This process of change is both unpredictable and diverse and requires that attention is paid to the uniqueness of each situation and to students as subjects. Following the discussion, we propose a model for considering the extensiveness and rigidity of formative assessment practices and that authors pay attention to whether they conceptualise formative assessment in a way that promotes student and teacher "gap closing" and control.

1 | INTRODUCTION

Formative assessment, also known as assessment for learning, has been receiving increasing attention in the last few decades. It has come to influence teaching from primary to higher education and is promoted by national and transnational actors alike (Allal & Mottier Lopez, 2005; Echazarra, Salinas, Méndez, Denis, & Rech, 2016; Hopfenbeck, Tolo, Florez, & Masri, 2013; Nusche, Earl, Maxwell, & Shewbridge, 2011; Wiliam, 2010). Its overarching idea is that education should recognise student diversity and adapt to various student needs. It is thus commonly understood as activities undertaken by teachers or students to provide information that is used to adapt teaching/studying to meet students' needs (Wiliam, 2011). This idea derives from Vygotsky's (1978) Zone of Proximal Development that distinguishes between what students can achieve unaided and what they can achieve with the support ("scaffolding") of more competent others (Torrance, 2012). Formative assessment also portrays a dynamic view of students as agents who should be actively involved in their learning process in terms of goal setting and self-assessment (Black & Wiliam, 1998, 2009; Nicol & Macfarlane-Dick, 2006; Sadler, 1989). Thus, it is seemingly ipsative-referenced in the sense that the focus is on students' individual development (Hughes, 2011).

Paradoxically, although formative assessment is, in theory, oriented towards student needs and agency, it can sometimes lead to a mechanical/instrumental practice, particularly when implemented as a top-down initiative at the national level (Harlen, 2007, 2009; Hopfenbeck et al., 2013; Marshall & Jane Drummond, 2006; Ninomiya, 2016; Torrance, 2007, 2012). In these cases, its practices entail the use of tests to monitor student progress and improve test scores. These practices shift the focus of education towards conformity rather than diversity and student involvement (Ninomiya, 2016; Torrance, 2007, 2012).

Whilst some authors have argued that instrumental practices were the result of misinterpretations of what formative assessment was supposed to be (Marshall & Jane Drummond, 2006; Swaffield, 2011), others have suggested that these practices could also be a consequence of an inherent weakness in its theorisation, the notion of "closing the learning gap" (Ninomiya, 2016) which is found in a formative assessment model that is widely used in the field. It proposes that its function is to gather information that can be used to *close a gap* between the current and desired state of a student's understanding (Black & Wiliam, 2009) or performance (Nicol & Macfarlane-Dick, 2006; Sadler, 1989). This seems to assume learning as a linear process where it is possible (and desirable) to identify students' current position and move them forward towards a predefined destination (a learning outcome). In other words, learning is viewed as the process of following a path when hiking in a mountain where both the path and the destination exist. The task of the mountain guide then, like a teacher, is to ensure that hikers follow the path and reach their destination. Hence, formative assessment can also be understood as a criterion- and outcome-referenced assessment where students' development is subordinated to predefined outcomes and criteria. In other words, the notion of "closing the learning gap" rests on an unarticulated assumption that student learning both can and should be controlled in the light of stable and predictable outcomes. This assumption may be the source of unintended consequences for formative assessment practices, particularly in educational systems that are concerned with the measurement of pre-defined learning outcomes. This concern is particularly relevant since "learning outcome" has become a central concept in European educational policy and national curricula (Hall et al., 2015; Mølstad & Karseth, 2016). In many European countries, this focus represents a shift from a content- and input-oriented curriculum towards an output orientation with the focus on what students can perform (Mølstad & Karseth, 2016). This development relates to a greater focus on accountability and management by objectives that arose with New Public Management as a way of governing education (Hall et al., 2015). In this context, formative assessment could be interpreted as a practice to ensure that students stayed on course and arrived where they were supposed to, ensuring the measurable "success" of instruction. Hence, the question of whether learning can and should be controlled in the light of predefined outcomes and criteria is also relevant beyond the context of formative assessment and relates to a more overarching discussion of the purpose of education (Biesta, 2016).

Some studies have stated an interest in discussing how formative assessment may be theorised or contextualised in ways that allow for broader aims for education (Moeed, 2015; Ninomiya, 2016; Torrance, 2012, 2017).

This article is a contribution to this literature. Following Ninomiya (2016), we start with a concern for the notion of "closing the learning gap". In particular, we discuss whether the learning process *can and should be* controlled in the light of predefined learning outcomes and assessment criteria. Hence, we limit our discussion of the control assumption in formative assessment as it is portrayed in the most highly-cited articles[1] in the field (Black & Wiliam, 2009; Nicol & Macfarlane-Dick, 2006; Sadler, 1989) with reference to the idea of "closing the learning gap". We are aware that these sources also portray formative assessment as a student-involved and reflexive process. Hence, our discussion is not a critique of these sources nor of formative assessment in general—we believe that the idea of informed action in formative assessment is indeed a useful one—but a specific critique of the "gap-reduction" metaphor as it is embedded in the definitions of formative assessment of our main sources.[2] Our hope is that such a discussion may contribute to making it a more robust concept and avoid misunderstandings and misuse based on the wrong premises. It could also enable a broader discussion of formative assessment and the purpose of education. The discussion builds on Hans-Georg Gadamer's (2012) and John Dewey's (1997) concept of *experience* which challenges the idea of learning as a linear process that results in stable and predictable outcomes. These philosophers share an understanding of experiences as historically-conditioned and transformative events. Using their conceptualisation, we argue that learning follows a continuous circular movement where previous experiences affect future interpretations, making the learning process unpredictable and diverse. Following the discussion, we propose a model for considering the extensiveness and rigidity of formative assessment practices and suggest that authors pay attention to whether they conceptualise it in a way that promotes student and teacher reflexivity or "gap-closing" and control.

2 | THE "GAP-CLOSURE" MODEL

Assessments can be made for both summative and formative purposes. Whilst summative assessment "is concerned with summing up or summarizing the achievement status of a student" (Sadler, 1989, p. 120), often for grading purposes, formative assessment promotes student learning through the use of assessment and feedback. Black and Wiliam (2009, p. 9) offer the following definition:

> *Practice in a classroom is formative to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers, to make decisions about the next steps in instruction that are likely to be better, or better founded, than the decisions they would have taken in the absence of the evidence that was elicited. (Black & Wiliam, 2009, p. 9)*

Their definition is fairly open since it does not address the relationship between the elicited "evidence" and the learning outcomes. However, their model builds on an assumption that is widely accepted in the field (Andrade & Cizek, 2010; Hattie & Timperley, 2007; Nicol & Macfarlane-Dick, 2006; Sadler, 1989). It stipulates that effective learning is related to: (1) the teachers' and students' understanding of the learning intentions and criteria for success; (2) the students' current understanding of these intentions and success criteria; and (3) their understanding of how to close the gap between the intentions and the current state of the students' understanding.

The origin of this idea can be traced back to Sadler (1989) and to Ramaprasad's (1983) article "On the definition of feedback". Ramaprasad (1983, p. 4) suggests a definition of feedback from management theory where the perspective is the change of systems: "Feedback is information about the gap between the actual level and the reference level of a system parameter which is used to alter the gap in some way". In the context of formative assessment, the "actual level" refers to either a student's current understanding or the state of something made by a student (e.g., a text) and the "reference level" to the desired state of a student's understanding or the object made by a student. Hence, the aim of instruction is to reduce the gap between the "actual condition" and the "desired condition". Table 1 shows how this is expressed in Ramaprasad (1983) and the three most cited articles

TABLE 1 Different formulations of the "gap closure" model

In terms of Ramaprasad (1983, pp. 4–5)	Sadler (1989, p. 121): "The learner has to…	Nicol and Macfarlane-Dick (2006, p. 204): "the students must know:	Black and Wiliam (2009, p. 8): Teachers, learners, or their peers need to know…
Reference level	(a) possess a concept of the standard (or goal, or reference level) being aimed for,	1. what good performance is (i.e., the student must possess a concept of the goal or standard being aimed for);	"Where the learner is going (1. Clarifying learning intentions and criteria for success)
Actual level	(b) compare the actual (or current) level of performance with the standard"	2. how current performance relates to good performance (for this, the student must be able to compare current and good performance);	Where the learner is right now (2. Engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding)
Decreasing the gap	(c) engage in appropriate action which leads to some closure of the gap."	3. how to act to close the gap between current and good performance."	How to get there" (3. Providing feedback that moves learners forward)

on formative assessment (Black & Wiliam, 2009; Nicol & Macfarlane-Dick, 2006; Sadler, 1989). A noteworthy difference is that Sadler (1989) uses the term "student performance" when addressing the "reference level" and "the actual level", whilst Black and Wiliam (2009) use more general terms: "Where the learner is going" (reference level) and "Where the learner is right now" (actual level). The reason for this seems to be that Sadler (1989) focuses on assessment and feedback that aim at promoting student performance, i.e., improving students' ability to write academic texts. Black and Wiliam (2009, p. 8), on the other hand, focus on assessment for the enhancement of student understanding by emphasising "Engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding". Regardless, these perspectives seem to assume that students' learning processes result in stable outcomes where desired outcomes can be predetermined and reached by students predictably, given the appropriate support and information.

It is also assumed that students' understanding/performance is scalable into levels where the teacher can assess their current level of understanding in relation to the desired level and use this information to reduce the gap between the two. In the light of this, the aim of formative assessment becomes to bring students from an undesirable to a desirable level of understanding/ performance in relation to a predefined outcome. This underlines a conception of learning as a linear, scalable, and controllable process.

Hans-Georg Gadamer's (2012) and John Dewey's (1997) concept of experience reveals that this view of learning is inherently flawed. In the following sections, their conceptualisation of experience is presented and discussed to illustrate why the control assumption in formative assessment is ontologically questionable and raises ethical concerns.

3 | EXPERIENCES AS HISTORICALLY-CONDITIONED AND TRANSFORMATIVE EVENTS

Experience is a crucial concept in the works of John Dewey and Hans-Georg Gadamer. John Dewey (1859–1952) was born in Vermont, US in 1859 and is one of the most influential educational philosophers of recent times. He is often placed within the philosophical tradition of pragmatism and is known for his analysis of the place of experience in education, which is also reflected in the title of several of his works: *Experience and Nature* (1921), *Art as Experience* (1934) and *Experience and Education* (1938). This article focuses primarily on *Experience and Education* (Dewey, 1938/1997), which connects the concept of experience to the process of education.

Hans-Georg Gadamer (1900–2002) was born in 1900 in Marburg. He is considered to be one of the 20th century's most important philosophers and the founder of philosophical hermeneutics. Traditionally, hermeneutics were associated with *text interpretation*, with philosophical hermeneutics. However, attention was drawn to the universality of *the phenomenon of understanding* (Alvesson & Sköldberg, 2009). Unlike Dewey, the works of Gadamer are not oriented towards education. Nevertheless, their implications are of educational importance, particularly his conception of experience as it is defined in *Truth and Method* (Gadamer, 1960/2012).

Dewey and Gadamer lived during the same epoch, but Dewey died before Gadamer published *Truth and Method* in 1960. It is probable that Gadamer, like many other continental philosophers, never read Dewey's work or the work of other American pragmatists (Fairfield, 2011). However, there is a link between Gadamer's hermeneutics and Dewey's pragmatism. The German philosopher G. W. F. Hegel influenced both (Fairfield, 2011; Noddings, 2007). In Hegel's *Phenomenology of Spirit*, the relationship between experience and formation is central (Stiensholt, 2011). This resonates with how "experience" is conceptualised by Gadamer (2012) and Dewey (1997). Both share an understanding of experience as a transformative experience that changes people's capability to interpret and understand. Thus, their concept of experience is related to the phenomenon of understanding and the conditions under which new understandings, attitudes and moral judgement are formed (Dewey, 1997; Gadamer, 2012). According to Gadamer (2012, p. 347), there are two kinds of experiences: "experiences that conform to our expectation and confirm it and new experiences that occur to us". He considers the latter as real experiences that

are essentially negative because they refute our expectations. This negativity has a productive meaning in that we acquire more comprehensive knowledge since we hitherto "have not seen the thing correctly and now know it better" (Gadamer, 2012, p. 347). These refutations are not merely consequences of pure impressions, but the result of the dialectic interaction of questions and answers between the interpreter and the object of interpretation. Gadamer (2007, p. 82) claims that:

> *… the historicity of our existence entails that prejudices, in the literal sense of the word, constitute the initial directedness of our whole ability to experience. Prejudices are biases of our openness to the world. They are simply conditions whereby we experience something—whereby what we encounter says something to us.*

Having experiences is considered a lifelong process where our horizon of understanding, acquired through previous experiences conditions our expectations and interpretations. When interpreting something, we use our pre-suppositions as the frame of interpretation. New interpretations are made through a dialectic of questions and answers. The questions we ask are determined by our horizon of understanding as an "explicit establishing of presuppositions" (Gadamer, 2012, p. 357), that is, we cannot understand something for which we have *no* presupposition because we would not be able to make sense of it. However, experience is not merely a matter of gaining new insights into a particular topic, but transforms our understanding as a whole. It represents a breach of our expectations that enables us to see ourselves and the world in a new perspective. The new object (of experience) provides us with the truth about the old one(s) so that we can understand and anticipate what we previously could not. Hence, our experiences affect how we become as human beings.

Experience, according to Dewey, is based on two principles: *the principle of continuity* and *the principle of interaction*. The first encompasses the fact that the process of experience always connects the present and the past: "every experience influences in some degree the objective conditions under which further experiences are had" (Dewey, 1997, p. 37). This connection is made through the interaction between internal and external (objective) conditions:

> *… it [*the principle of interaction*] assigns equal rights to both factors in experience—objective and internal conditions. Any normal experience is an interplay of these two sets of conditions. Taken together, or in their interaction, they form what we call a* situation. *(Dewey, 1997, p. 42)*

Through such interactions, new experiences are possible, but are also limited by the conditions (both internal and external) that are present in each situation. Since an individual's internal conditions are determined by previous experiences, the latter are essential in how external conditions are interpreted and how a situation is formed. Thus, as stated by Dewey (1997, p. 44), the principles of continuity and interaction "intercept and unite":

> *What he [the individual] has learned in the way of knowledge and skill in one situation becomes an instrument of understanding and dealing effectively with the situations which follow. The process goes on as long as life and learning continue.*

Even though the two philosophers differ in their derivation of the concept of experience, it is clear that both consider experiences to be transformative events that generate new understanding. These events occur through a continuous lifelong interaction process where our current understanding, generated from previous experiences, conditions how new situations are formed, making our capability to understand and have new experiences historically-determined. If previous experiences condition our understanding and interpretations, then every interpretation should be unique because no one lives identical lives. Of course, one can assume that living in a world that consists of certain physical regularities and shared traditions/cultures leads to understandings and interpretations that have some commonalities.

But the world is big and inexhaustible, posing invariable conditions for experiencing, making our historically-conditioned consciousness different, depending on where and how we have lived. Hence, what are the possibilities for teachers to use formative assessment and act to close their students' learning gaps?

So far, we have seen that, according to both Dewey (1997) and Gadamer (2012), we are continuously engaged in an interactive process with our environment. Through this interaction, new interpretations are made possible, but are also limited by the conditions (both internal and external) in each situation. The present situation, however, also involves the future and the past. The future, because we engage with our environment in the light of our plans and expectations; the past, because our current understanding depends on previous experiences that condition how new situations occur to us. This implies a continuity of experience where the interaction between previous experiences, future plans and external conditions affect how new experiences develop. This continuity can therefore be portrayed as a spiral. Since everyone is trapped in their own spiral because no one lives identical lives, our interpretations and understandings will differ. To illustrate this: When facing a new text, students use relevant previous experiences to pose questions to the text and interpret its meaning. This interpretation will, in turn, change their horizon of understanding if the text tells them something new. This also changes the way they perceive the text when rereading it and how they can interpret other texts and future situations. Thus, their current understanding affects their interpretation of the text and the text affects their future understanding. This circular motion causes the individuals and their reality to change.

Similarly, changes in students' understanding occur with the interaction with other students, the teacher, and the material where both their internal conditions and the external conditions in their environment affect their interpretations and how their understanding changes. Because students and teachers have different experiential backgrounds, the learning process entails multiple layers of interpretation that make the task of formative assessment complex and the outcome unpredictable. In other words, the historicity of experience represents a "weakness" in education that cannot be overcome. Hence, education always entails risk (portrayed by Biesta, 2013 as a beautiful risk) and uncertainty. Although most educational endeavours start with teachers having a learning intention for their students, the outcome of students' interaction with the material is, in essence, uncontrollable. However, this "weakness" is also the very condition that enables knowledge to be reconstructed (not merely reproduced), opening for the meeting of various perspectives that can challenge and develop a field further. In this also lies the recognition that the act of teaching entails reflection and action *in situ*—because new situations can always provide teachers with new experiences that can shed new light on students' understanding, the learning intentions and the learning activities.

4 | TEACHING AS A REFLECTIVE PRACTICE AND STUDENTS AS SUBJECTS

The claim that teaching should entail openness to new experiences is linked to the distinction between matters that can be predetermined and cases that need reflection in action. This is illustrated by Gadamer's (2012, pp. 310–321) use of Aristotle's analysis of moral judgement in his investigation of the problem of interpretation. Aristotle (2011, p. 116) considers two kinds of reason: "one part is that by which we contemplate all those sorts of beings whose principles do not admit of being otherwise, one part that by which we contemplate all those things that do admit of being otherwise". The first is a question of determining how things are. The second of judging something that also could be different. This reason is related to our actions because how we act can always be different. Therefore, even though being experienced is essential and can help to outline learning intentions for students, it is not sufficient when it comes to the act of teaching because making the right decision at the right time cannot be predetermined. Alternatively, to say it with Gadamer (2012, p. 315), "What is right … cannot be fully determined independently of the situation that requires a right action from me". Teaching thus requires openness to the uniqueness of each situation. Hence, students' needs continuously change for the teacher. Of course,

this could entail a more dynamic gap-closing practice where the teacher recognises that new situations could highlight new gaps that need to be reduced. However, even though this could shift the balance of authority from the curriculum to the teacher, it can still be quite oppressive if students are treated as objects to form and control rather than subjects worth listening to.

According to Gadamer (2012), the experience with a person is different from that with an object which is employed as a means to our end. A person is (or at least can be) a genuine partner in dialogue. In a genuine dialogue, the object of investigation is not the person, but the object or theme of the conversation. In every conversation lies a potential to have new experiences, unknown to those who take part in the dialogue: "To ask questions means to bring into the open. The openness of what is in question consists in the fact that the answer is not settled. It must still be undetermined, awaiting a decisive answer" (Gadamer, 2012, p. 357).

Understanding is reached through what Gadamer (2012) calls a "fusion of horizons" (p. 305). This is considered as an act of language. It requires that a common language is established and, through it, the exchange of ideas is made possible. At the same time, this exchange further develops the language, which, in turn, enables new insights for the partners in conversation, changing their horizons of understanding. Gadamer (2012, p. 371) states that:

> *… in a successful conversation they [the partners of conversation] both come under the influence of the truth of the object and are thus bound to one another in a new community. To reach an understanding in a dialogue is not merely a matter of putting oneself forward and successfully asserting one's point of view, but being transformed into a communion in which we do not remain what we were.*

Such a communion ("fusion of horizons") does not mean that conversations make people's horizons of understanding become one and the same, but that common ground is created upon which further conversations can be built. This dialectic of questions and answers is the only way we can understand each other. The alternative is not to communicate and choose ignorance. Hence, teachers need to be open to students' questions, ideas, aims, and desires.

5 | EDUCATIVE AND MISEDUCATIVE EXPERIENCES

As we have seen, both Gadamer (2012) and Dewey (1997) consider experiences as historically-conditioned transformative events. This challenges the idea of closing "the learning gap" that seems to consider learning as a linear, scalable, and controllable process.

Since the process of learning is both diverse and unpredictable, we have argued that teaching entailed reflection and authentic dialogue with students *in situ*. An interrelated question is *how* the learning process affects students as human beings. In this respect, one could assume that some changes can be damaging or that all change is desirable. A problem with the "gap-closure" model is that learning is conceived in an abstract and general sense where successful "gap-closure" equals learning and learning equals good. This can create an understanding of learning as desirable, regardless of what is learned.

Dewey (1997) makes a distinction between experiences that are *non-educative*, *miseducative* and *educative*. Non-educative experiences are the result of failed interactions between the individual's understanding and the material intended to be experienced; the individual does not have a meaningful experience because there is a lack of connection between previous experiences and the object(s) of interpretation. Focusing solely on this concept is linked to the view that all learning is beneficial. A failure in this respect would be the failure to learn. From this perspective, if "closing the learning gap" can contribute to a reduction of such failures, the approach would be considered desirable and unproblematic, regardless of context.

Dewey (1997), however, recognises that some experiences can be damaging. Whilst non-educative experiences concern the principle of interaction, the difference between miseducative and educative experiences is related to the principle of continuity. Dewey (1997, p. 36) claims that "the educative process can be identified as

growth". An experience that leads to growth in a direction that provides good conditions for further growth (in new directions) is considered educative, whereas an experience that inhibits or disrupts the capability of growth in new directions is considered miseducative. Even though all experiences promote and inhibit opportunities for growth, one can imagine that some kinds of experiences are less restrictive than others. For example, learning to read is likely to render an individual open to many new experiences. Conversely, some experiences may be disruptive and limit the capacity for growth, such as experiencing that you are not good at something. Furthermore, it is important to note that it is not solely the external conditions in themselves that determine whether or not an experience becomes educative, but the way the external conditions interact with the internal conditions. Hence, the same external conditions could result in different experiences, depending on a student's internal conditions. This also implies that even the process of learning something that is commonly considered good may cause collateral learning that is undesirable:

> *Perhaps the greatest of all pedagogical fallacies is the notion that a person learns only the particular things he is studying at the time. Collateral learning in the way of formation of enduring attitudes, of likes and dislikes, may be and often is much more important than the spelling lesson or lesson in geography or history that is learned. For these attitudes are fundamentally what count in the future. (Dewey, 1997, p. 48)*

In Gadamer's description of the truly experienced person, we find a partly similar, partly different notion. He states that "experience is experience of human finitude. The truly experienced person is one who has taken this to heart, who knows he is master neither of time nor the future" (Gadamer, 2012, p. 315). Experience is not something from which the individual can be freed. It is part of man's historical being. Upon realising this, the truly experienced understand that they are never fully educated as human beings; there are always new truths to discover beyond their horizon of understanding. The experienced person therefore differs from the person who is captivated by dogma by being fundamentally open/ready to make new experiences. This notion is similar to Dewey's in the sense that being open to new experiences is considered normatively desirable, as opposed to being dogmatic (Gadamer, 2012) or miseducated (Dewey, 1997). In this respect, however, Dewey (1997) focuses on the continuity of experience, whilst Gadamer focuses on a particular kind of experience, the experience of oneself as a historical being. He argues that having experiences is not simply a process of acquiring new information about a particular situation, but also involves "an element of self-knowledge" (Gadamer, 2012, p. 350). An experience entails not only that we understand something in ourselves, but also that we understand ourselves through the new insight. This puts a twist on assessment because one could claim that when assessors (students or teachers) interpret the state of something in the light of previous experiences, then the state of this something becomes a frame of reference for how assessors understand themselves. In other words, assessment always involves self-assessment (see Sadler, 2010 for a discussion on how peer assessment lead to better self-assessment).

Whether we agree with the normative sides of Dewey's and Gadamer's theories of experience or not, the ontology behind their perspectives is relevant because it entails that experience shapes one into a different person, for better or for worse. Hence, experiences can lead a person into a vicious or a productive circle. This highlights the need to consider formative assessment in a broader perspective than making learning more effective and efficient towards predefined outcomes.

6 | FORMATIVE ASSESSMENT, REFLECTION OR CONTROL?

As illustrated in our discussion in the light of Gadamer (2012) and Dewey (1997), learning is not entirely controllable and formative assessment practices that try to control students' learning process without giving attention to their general development and subjectivity are potentially damaging. As noted by Torrance (2012, p. 329),

however, "developing and implementing formative assessment is generally regarded as a 'good thing'". But concerns have been raised that the implementation of formative assessment practices tends to become too instrumental/mechanical when coupled with a strong desire to control students' learning in the light of predefined outcomes and assessment criteria (Ninomiya, 2016; Torrance, 2007, 2012). In the light of the prevailing political governance implemented as management by objectives, this concern does resonate. As discussed by Harlen (2009), the mechanisms within high stakes assessment for accountability such as in the UK may very well link with formative assessment, narrowing down the aims or goals of education by reducing the normative value to measurable qualifications.

As noted by Ninomiya (2016, p. 81), a defence of formative assessment has been offered by some researchers, suggesting that an instrumental and controlling use stems from misunderstandings and misinterpretations. He suggests that the problem cannot solely be ascribed to misunderstanding, but can be found "in the widespread notion of 'closing the learning gap'". Building on the works of Torrance, he claims that this "theoretical weakness" may lead to *criteria compliance* whereby teaching becomes solely focused on transparent learning objectives and assessment criteria, combined with feedback related to these criteria (Torrance, 2007, p. 281; 2012, p. 338). This leads to a "*conformative* assessment" (Torrance, 2012, p. 332) where predefined criteria become standards that students need to conform to in order to succeed, thus reducing possibilities for independent and critical thinking. Torrance (2012, p. 338) argues that "Attention must also be paid to the divergent possibilities in a learning encounter, to new ways of thinking and new criteria that may be brought into play". In the light of our discussion on interpretation, this is a question of recognising that new situations can provide teachers with experiences that can shed new light on learning intentions and learning activities. Another concern raised by Torrance is that assessment could also have a negative impact on students' identities and self-worth. For instance, critical comments from the teacher could lead to students perceiving themselves as "failures" rather than inspire improvement. Torrance (2012, p. 334) calls this "*de-formative* assessment". Although this is a potential consequence of any assessment, it can also be related to a standardisation of learning outcomes and assessment criteria. If a student's performance fails to be recognised as meeting a pre-set/desired standard, the contribution as such may not be valued, regardless of its inherent quality. Hence, a brilliant, creative, and original performance could lead a student to feel like a failure, whereas the real problem is the failure to conform to a particular way of thinking or doing. For Gadamer (2012), this is an ethical issue of whether students are regarded as objects to be assessed and formed in the light of predefined learning outcomes or subjects to which we should listen. Inherently, this question also concerns the purpose of education. Hence, we argue that not only criteria compliance may follow from an instrumental interpretation of/ practice of formative assessment, it may also favour certain educational purposes. Biesta (2013, p. 64) distinguishes between three (overlapping) domains of educational purpose: (1) qualification, (2) socialisation and (3) subjectification:

> *…the domain of* qualification, *which has to do with the ways in which, through education, individuals become qualified to do certain things (this is the domain of the acquisition of knowledge, skills, values and dispositions); the domain of socialization, which has to do with the ways in which, through education, individuals become part of existing social, political, professional, and so on "orders"; and the domain of subjectification, which, in opposition to socialization, is not about how individuals become part of existing orders but how they can be independent—or as some would say, autonomous—subjects of action and responsibility.*

Formative assessment is most commonly used for the purpose of qualification through the assessment of students' knowledge and skills in different content areas. Hence, its extensive use as a "gap-reduction" may favour domain-specific outcomes over students' general development. Since experiences are not solely about acquiring a particular knowledge or skill, but also transformative events that change a student's understanding and self-understanding as a whole (Dewey, 1997; Gadamer, 2012), teaching requires a particular sensitivity to the purpose of education

beyond qualification. On the other hand, if formative assessment as a "gap-reduction" is applied to promote and evaluate students' more general development, education runs the risk of indoctrination, marginalising the domain of subjectification. In other words, extensive use of formative assessment, understood as a means to reach predefined outcomes, could be undesirable in both a narrow and a broad sense: in a narrow sense, if certain parts of the domain of qualification become the sole purpose of education and in a broad sense if all domains of education are supposed to be controlled in the light of predefined outcomes and assessment criteria.

As we see it, a significant difference in the function of formative assessment is related to the *extensiveness* and *rigidity* of its implementation. Depending on how it is conceived and implemented at system and individual (teacher) level, it can be used extensively as the primary approach to teaching, or occasionally when working with specific tasks. It can be used instrumentally as a strategy to monitor and control students towards learning outcomes, using checklists with predefined criteria, or for reflection as a way of raising teachers'/students' awareness of their teaching and studying.

As illustrated in Figure 1, a danger lies in the combination of extensive and instrumental (rigid) uses of formative assessment. Such a practice risks both ignoring students' general development and disregarding their subjectivity, that is, students are treated as objects to control towards predefined outcomes and education is regarded as successful if the outcomes are reached, regardless of the attitudes they develop in the process. It also risks inhibiting the process of knowledge reconstruction, making education a matter of reproducing (measurable) knowledge and skills.

Although some authors argue that instrumental practices violate "the spirit" of formative assessment (Marshall & Jane Drummond, 2006) and stem from misinterpretations of what "authentic" formative assessment *is* (Swaffield, 2011), this is indeed a possible implication of the "gap-reduction" model. When interpreted rigidly, this model focuses on leading students' understanding (or work) from an undesired to the desired state where the purpose of teaching becomes controlling their learning process/performance towards predefined outcomes. The problem with the theorisation of formative assessment is that this is a viable interpretation. So even though authors argue that students should be involved in their learning process (Black & Wiliam, 1998, 2009; Nicol & Macfarlane-Dick, 2006; Sadler, 1989), this involvement risks becoming only procedural (Ninomiya, 2016). Similarly, the same rigidity also risks undermining teaching as a reflective practice, favouring a predefined curriculum over teacher autonomy and professional judgement (Biesta, 2015; Westbury, Hopman, & Riquarts, 2000).

FIGURE 1 Model of formative assessment practices concerning extensiveness and rigidity

However, less rigid interpretations of what constitutes formative assessment practice are possible. As we see it, how it is understood can be seen as a continuum between reflection and control. At one end, its purpose is to promote student and teacher reflexivity, whilst at the other, its purpose is to control student learning (either by the teacher or the students themselves). Where various actors place themselves on this continuum is likely to be affected by their epistemic beliefs, as well as by the context of implementation. This could be the reason why top-down implementations tend to become instrumental if measurable learning outcomes are at the forefront of the practice. As our discussion shows, however, the current conceptualisation contributes to enabling such interpretations.

7 | CONCLUSION

Our starting point was that the notion of "closing the learning gap" in formative assessment was built on the assumption that student learning could be, and should be controlled (both by teachers and students themselves) in a way that reduces the distance between their current understanding and a predefined state of understanding (a learning outcome). In this article, we argued both ontologically and normatively against this notion.

In the light of Gadamer's (2012) and Dewey's (1997) concept of experience, it is not possible to predetermine how an educational setting could affect a student's development. Every experience is the result of the interaction between a student's (pre-)understanding and the object of interpretation. This process is both historically-conditioned and transformative. It is historically-conditioned because previous experiences affect new interpretations. It is transformative because every experience changes those who experience it into a slightly different person, that is, it changes their understanding and capacity to make future experiences. Hence, a learning outcome is, in essence, unpredictable. In other words, the same learning intention, material and activities will affect various students in different ways which cannot be known in advance. This means that students could learn other things than what was intended, for better or for worse. On the one hand, even if formative assessment contributes to reaching a particular learning outcome that is deemed desirable, the experience as a whole could still cause collateral learning that is harmful to students. On the other, students also "risk" learning something important which may not be in line with the set outcomes. In this case, a strong focus on control through predefined learning outcomes and criteria could inhibit the very process that leads to creative knowledge development, favouring the reproduction of knowledge and conformity instead. This does not mean that we advocate never using specific goals and assessment criteria for formative assessment. Such choices should be context dependent. Whilst some tasks could aim at inspiring divergent thinking, others could require that the students converge to a certain way of doing in order to perform a task successfully. Hence, it is important to distinguish between the critique of "gap-reduction" as a theoretical construct guiding formative assessment in general and the need to use specific goals and criteria in certain assessment situations. The main concern is that "gap-reduction" as a central metaphor in the theorising of formative assessment can lead to educational practices that aim at controlling the students' learning process, regardless of their development and subjectivity beyond reaching predefined outcomes. This is not only ontologically flawed, but also potentially damaging to the student, society and the advancement of new knowledge.

From a policy perspective, the discussion of "closing the learning gap" can also be read as a critique of New Public Management where student learning outcomes are treated like manageable objectives (Hall et al., 2015; Mølstad & Karseth, 2016). This promotes a process-product view of learning, implying that learning can be constructed, monitored and controlled in the light of specific outcomes defined before the beginning of the process (Svanes & Skagen, 2017). This linear view of learning is analogue to the idea of "gap-closing" in formative assessment. Formative assessment as "gap-closing" in an outcome-oriented education system is therefore likely to support the system's attempt to assume control over both the learning process and "the learning product". Although a process-product focus can be appropriate in certain areas of governance (such as the construction of roads, buildings, etc.), this is not the case with learning. Although learning outcomes can be more or less narrowly or openly defined (Prøitz, 2010), they represent a linear view that ignores the historicity, uniqueness and unpredictability of

educational encounters and the fact that learning affects students' growth as human beings, not just as learners of certain competencies (Biesta, 2016).

Regardless of context, however, the notion of "closing the learning gap" in formative assessment assumes that student learning can be controlled between a current and desired level of understanding/performance. In other words, the process-product view of learning is inherent in the notion itself. The problem is therefore theoretically embedded in formative assessment and thus context-independent, although some contexts could open up more instrumental interpretations of "gap-closing" than others.

Although it is useful for students to be aware of the learning intentions in a course and their understanding of the material and to obtain feedback on how to improve (as suggested in most conceptualisations of formative assessment), this is possible without submitting to the rigid and linear way of teaching that the notion of "closing the learning-gap" implies. As a future development, we propose that authors pay attention to whether they are promoting control or reflexivity in education through their conceptualisation of formative assessment. The latter requires that the idea of "gap-reduction" is put to rest as a defining concept. This could avoid conflictual communication where formative assessment could be understood both as a way to promote student and teacher reflection, student involvement and teaching responsive to student needs and as an instrument for process-product control.

ENDNOTES

[1] As of 27.06.2018 in Web of Science, these three articles are the most cited: "Formative assessment and self-regulated learning: a model and seven principles of good feedback practice" (Nicol & Macfarlane-Dick,) 1,119 citations, "Formative assessment and the design of instructional systems" (Sadler, 1989) 880 citations, and "Developing the theory of formative assessment" (Black & Wiliam, 2009) 426 citations.

[2] Our article refers only to Anglophone literature on formative assessment. Less linear interpretations could exist elsewhere, as indicated in Allal and Mottier Lopez (2005)'s review of publications in French.

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