

Aligning Assessment, Learning and Teaching in Curricular Reform and Implementation

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Overview

This paper aims to present for discussion a number of issues that will be pertinent when considering the role of assessment in the redeveloped primary curriculum. As the NCCA have articulated, *“in a climate of change, different stakeholders are making different assumptions about assessments”* and *“there is a need to articulate a clear vision for the assessment landscape.”* This paper represents a first step towards articulating this vision.

Six key questions have been posed by the NCCA, as follows:

1. What clear definitions or statements of assessment would provide clarity in the primary education system level?
2. What definitive principles of assessment should be promoted to support an outcomes based curriculum at primary level?
3. How can a theoretical framework for assessment enhance and promote greater teacher autonomy and agency in the context of a redeveloped curriculum?
4. How do we conceive standardised tests to avoid distortions or narrowing in the education process such as teaching-to-the-test and narrowing of the curriculum? (in the context of the 2007 continuum)
5. What is the rationale for designating or not designating domain specific assessment practices in a primary curriculum?
6. How or what is it that should be spotlighted when we think about a broad and balanced curriculum?

These six questions will be addressed in turn. In responding to each question, we have made a conscious effort to contextualise our responses appropriately, in order to maximise the utility of the paper. That is, where possible, the discussion is mapped on to current thinking regarding assessment (garnered from a consultation of extant NCCA literature), and in light of existing government policies that have, and will continue to have significant implications for assessment practice. Finally, the main messages of the paper are consolidated and summarised.

Q1. What definitions or statements of assessment would provide clarity in the primary education system level?

Historically, the role of assessment was to record student achievement. Consequently, the term ‘assessment’ is frequently conflated with that of ‘evaluation’ (i.e. *the act of judging the merit or worth of a process or product*), despite the fact that it now means something much more than this. The perceived equivalence of the two terms is most common amongst non-specialists, however, misconceptions also persist amongst some educational practitioners. This is arguably the most important issue that needs to be addressed when attempting to define assessment in the Irish primary education system, as it represents a substantial threat to understanding and implementing a full range of effective assessment practices in this context.

It is acknowledged that various attempts have already been made to provide an all-encompassing definition of educational assessment, and one that differentiates it from evaluation. Most of these, including that used in the NCCA’s 2007 guidelines (“*the process of gathering, recording, interpreting, using and reporting information about a child’s progress and achievement in developing knowledge, skills and attitudes*”) remain appropriate; as such, we do not wish to focus excessively on generating a single, reworded definition here. Rather, there are three overarching *concepts* that have recurred in prominent national and international literature in recent years that we wish to highlight, as they are likely to be helpful in terms of promoting clarity and guidance for primary school teachers. They are as follows: (i) *assessment is an integral part of teaching and learning*, (ii) *assessment exists along a continuum* and (iii) *assessment provides information for various stakeholders*

Each of these concepts will now be explored in depth. First however, it is necessary to briefly consider the key terminology commonly used in assessment literature, namely: *formative assessment*, *summative assessment*, *assessment for learning (AfL)*, and *assessment of learning (AoL)*. Previously, the NCCA have acknowledged the potential for “*confusion over the language of assessment*”, and it is true that these terms have been used in slightly different ways in the past. In an effort to minimize such confusion, we have included, as an Appendix, an overview of these terms and how they have been used by others, and a delineation of how we have used these terms throughout this paper (see Table A1, Appendix).

Concept 1: Assessment is an integral part of teaching and learning

Every effort should be made to position assessment as an integral part of teaching and learning, and not as something that occurs at a separate time or in a separate place. This is likely to pose a conceptual challenge for those who view assessment as being synonymous with evaluation. However, this is desirable, as it represents the first step in deconstructing this erroneous belief and moving towards a more accurate and holistic understanding of the term.

It is suggested that, rather than *immediately* framing assessment through formative vs. summative lenses, the first step in conceptualising assessment should be to present it simply as a central element of effective teaching. That is, teaching ‘begins’ by identifying a set of learning outcomes and an associated set of activities designed to promote the achievement of these learning outcomes. However, as it cannot be taken for granted that these activities will automatically result in the learning outcomes being achieved, a central element of effective teaching is the process of periodically monitoring the progress of learners towards achieving the intended learning outcomes, *i.e.* assessment. Indeed, [it is only through assessment that a teacher can be aware of whether a particular sequence of activities has resulted in the intended learning outcomes.](#) Figure 1 depicts assessment as one of several elements of effective pedagogy. This representation of pedagogy is not intended to be exhaustive – we acknowledge that additional components could be included.

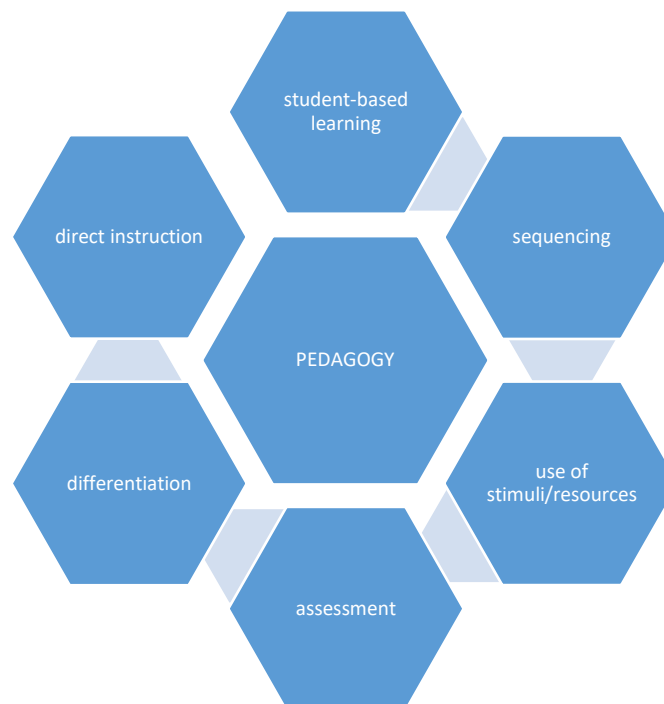


Figure 1. Understanding assessment as an essential element of effective pedagogy

We acknowledge that thinking about assessment as an integral part of teaching and learning is not, in and of itself, a novel suggestion. Indeed, it was one of the 15 learning principles included in the introduction to the 1999 Primary School Curriculum. However, it is important to realise that this message can easily become diluted for teachers when they are presented with taxonomies of different types of assessment, or when assessment becomes synonymous with rigorous and burdensome administration, documentation and reporting, *i.e.* when it becomes seen as something that detracts from time spent on teaching, rather than as something that is a part of teaching. Indeed, one of the biggest barriers to teachers' implementation of effective assessment strategies is [that they are perceived of as being too resource-intensive and time-consuming](#). Assessment need not be seen in this way if it is understood as an intrinsic part of teaching and learning.

Teachers should understand assessment as simply a natural part of what happens in the classroom, moment by moment, day by day. There are some steps that can be taken to reinforce this message. For example, it should be the first conceptualisation of assessment to which pre-service teachers are exposed. The term assessment should be included, where possible, in all discussions relating to teaching, learning or pedagogy within initial teacher education and indeed in professional development programmes. It follows that this should also be the case in policy documentation. [Louis Volante has already drawn attention to this in a recent NCCA-commissioned review](#). Specifically, he emphasized that questions concerning assessment should not be posed separately to questions concerning pedagogy, rather responses to questions concerning pedagogy should automatically address those concerning assessment. Indeed, recommendations arising from this current paper should eventually be integrated with those relating to pedagogy, when communicating them more broadly, if we are to avoid inadvertently reinforcing the misconception that assessment and pedagogy are separate entities.

Conceptualising assessment in this way should [reduce the unhelpful tendency to conflate AFL strictly with formative assessment, and AoL with summative assessment](#). If assessment as an entire entity is understood to be a part of teaching and learning, this should empower teachers to consider, when they engage with any type of assessment, *how*, and not *whether* that assessment is embedded in teaching and learning. For example, it may help teachers to see the potential to use information from a standardised assessment to improve their teaching strategies or to enhance individual pupils' learning, as opposed to simply reporting STen scores on report cards¹. Note that this is akin to saying that it may help teachers to start '*using assessments designed primarily for summative purposes, for formative purposes*'.

¹ Issues pertaining to standardised assessments specifically are addressed in greater detail later on in this paper.

Concept 2: Assessment exists along a continuum

Once the conceptualization of assessment as an integral part of teaching and learning has been firmly established, a secondary issue that might be addressed is the idea that assessment can manifest itself in various types or forms. It should be made clear that various types of assessment are not fundamentally different from one another. The point might be made that different types of assessment “look” different from one another on the surface, but that, by definition, they all share the quality of being a part of the teaching and learning process.

To emphasize the fact that various ‘types’ of assessment are not necessarily mutually exclusive, it is helpful to think of them as existing along a *continuum*² ranging from “organic” types of assessment to more “planned” or “visible” types of assessment (depicted along the horizontal axis in Fig. 2). Note that information from all types of assessment can theoretically be used for formative *or* summative purposes, or a combination of both (depicted along the vertical axis in Fig. 2).

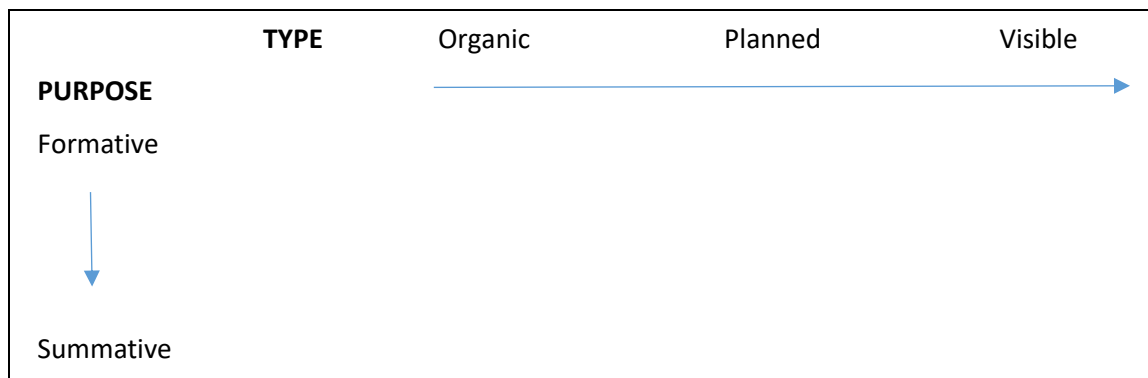


Figure 2. Understanding types and purposes of assessment along continua

Assessment as an organic activity encapsulates the idea that it is something that occurs naturally, and on an ongoing basis in the classroom. It does not in any sense *interrupt* the process of teaching and learning; rather, it is an invisible – but real – part of this process. Increasing awareness of organic assessment may be especially important in terms of reducing the likelihood that assessment is seen as burdensome or bureaucratic, thus enhancing teacher agency³. This is because organic assessment does not require extensive planning or concrete resources, it does not necessitate reporting and it is not always implemented by the teacher (*i.e.* it may sometimes be implemented by the pupils in the form of self- or peer-assessment). Teachers can ensure that organic assessment occurs by simply adopting a set of habits such as sharing learning outcomes and success criteria with pupils to enhance their capacity to engage in self-assessment, providing regular opportunities for peer-to-peer and whole-class discussion, posing appropriate questions to scaffold student learning, and simply

² Others have referred to this as a [continuum of formality](#), but we have chosen not to retain this language to avoid the possibility of ‘formality’ being misinterpreted as signifying ‘importance’.

³ also discussed in greater detail later in the paper.

being flexible and responsive to indications of pupils' misconceptions that may become evident as a result of these practices.

Other forms of assessment are better conceptualised as “planned interactions” rather than organic activities. These types of assessment are a little more explicit in nature and sometimes involve the use of concrete resources. Typically, they do not involve formal reporting, but they almost always require the teacher to consider a pupil's (or pupils') progress in relation to a particular learning outcome, and to provide detailed oral feedback about how further progress might be made. Planned interactions include practices such as questioning pupils at regular intervals throughout a lesson⁴, asking pupils to construct concept maps to communicate their current understanding of a particular topic, follow-ups based on previous organic assessments, observing certain pupils for specific purposes, conferencing with an individual pupil about a piece of work in their learning portfolio, or using rubrics. All of these activities are well explained and illustrated with concrete examples in the [2007 NCCA guidelines](#). In the context of the redeveloped curriculum, it would be desirable [if specific techniques that can enhance the capacity of each of these types of interactions to promote learning were emphasized](#). In the case of questioning, for example, these might include ensuring that questions are framed to promote higher-order cognitive processes where possible, allowing sufficient ‘wait time’ for pupils to think and offer their responses, and thinking about how an unexpected response from a pupil might help frame subsequent teaching, rather than sticking rigidly to a pre-determined plan of how further concepts might be explained. Finally, it should be made clear that there is no expectation that all of the different types of planned interactions described in the 2007 guidelines be carried out by an individual teacher with every pupil in every subject on a daily basis; rather, assessment, in the form of planned interactions, should be a routine part of teaching and learning, with the understanding that practically speaking, different pupils will be prioritised at different times.

At the furthest end of the continuum are assessments that are ‘visible processes’. Like organic assessment and planned interactions, these assessments are an integral part of teaching and learning, but they differ in that (i) they are discrete events, (ii) they almost always involve the production of a tangible record of the outcomes of the assessment (*e.g.* a written report that might include narrative feedback to the learner, and/or a grade or score) and (iii) pupils are usually aware that they are being assessed. In primary education, visible assessments include teacher-designed tests/quizzes and externally constructed standardised assessments. Very often, these assessments are categorised as being strictly summative, which may lead to their capacity to inform teaching and learning not being fully realised. Furthermore, because of the fact that the outcomes from these assessments can be readily shared with parties other than the teacher and the pupil (*e.g.* learning support teachers, parents, the school principal, the Board of Management, the DES), this is frequently seen as their central purpose. Indeed, in many jurisdictions internationally, this *is* their central purpose, with significant consequences attached to the results of standardised assessments in particular. When this happens, these assessments are classified as “high-stakes”, and there is ample literature

⁴ the ubiquity of questioning and observation in classroom assessment means that both could be considered as either ‘organic’ or ‘planned’ assessment

documenting a range of negative effects to which high-stakes assessment can give rise, such as [teaching to the test](#) and [curriculum narrowing](#). More will be said about this particular issue later in the paper, but at this point, it is sufficient to emphasize that assessment literacy for teachers encompasses the understanding that visible assessments are simply another form of assessment, alongside organic assessment and planned interactions, and that all three are a valued and an integral element of teaching and learning.

Concept 3: Assessment provides information for various stakeholders

A third and final concept that may help provide clarity is [that assessment provides information for various groups of stakeholders in the primary education system, and that the central group of stakeholders are the learners](#). Learners require information that allows them to identify where they are in terms of their learning, and what they need to do to progress beyond that point. [Other groups of stakeholders that require information from assessments include teachers, support staff, parents/guardians, school leaders, policymakers and other professionals \(e.g. NEPs psychologists, therapists\)](#). These stakeholders require information not for themselves, but *in order to make decisions which will ultimately impact on the learners*⁵ (see Figure 3).



Figure 3. Various groups of stakeholders for whom assessment provides information

⁵ It should also be borne in mind that the roles of “teacher” and “learner” are best conceived of as fluid rather than static roles. This point is expanded upon in the next section of this paper.

When considering Figure 3, it should be appreciated that:

- ✓ some stakeholders (*e.g.* teachers) will make decisions that have a direct and proximal impact on learners, whilst others (*e.g.* policymakers) will make decisions that have a more indirect or distal impact
- ✓ different stakeholders require different types of information
- ✓ a balanced assessment system will serve the needs of all stakeholders, but will prioritize the needs of learners.

By keeping the concept depicted by Figure 3 in mind, we can increase the chances that all assessments will do what they are supposed to do, *i.e.* promote and enhance learning. Indeed, conceptualizing the learner as a central stakeholder that benefits from assessment information both directly and indirectly highlights the fact that information gleaned from teachers' everyday observations of their pupils not only supports learning on a moment-to-moment basis, but can also be a valuable addition to narrative reports about pupils that may be passed on other stakeholders (*e.g.* to the secondary school to which a pupil is transferring after 6th class in the form of the 'Education Passport'). Similarly, it emphasizes how information gleaned from standardised assessments can be used at an aggregate level to inform policymakers' and school-leaders' strategic decision-making about targeting resources where they are most needed, but also at an individual level to stimulate dialogue between teachers, pupils and their parents about that pupil's strengths and weaknesses, and thus how their future learning can best be supported. These examples also reinforce the potential drawbacks of rigidly classifying an assessment as summative or formative, as discussed above.

Q2. What definitive principles of assessment should be promoted to support an outcomes-based curriculum at primary level?

There is an expansive literature relating to the allied fields of assessment, learning and teaching on the one hand, and curriculum design, development and review, on the other. In light of the complexity of the issues involved, it is perhaps unsurprising that a set of universally agreed, *definitive*, principles of assessment in support of an outcomes-based curriculum is unavailable. Hence, in response to the question posed, primary consideration is given here to what have been termed “foundational points of agreement”, shared and [advanced recently](#) by a group of highly respected assessment experts. As outlined in the next section of this report (which addresses conceptual frameworks and teacher autonomy), absence of a ‘go to’ definitive list of assessment principles reflects ongoing debates globally about the nature and purpose of education generally, and teaching, learning and assessment, particularly. Rather than abating, if anything, these debates have been re-energised by the unprecedented developments in technology, including artificial intelligence, in recent years.

Foundational points of agreement in assessment

A recent [publication](#) proposing what the authors term “foundational points of agreement” based on a set of “agreed-upon” principles is timely in the context of this paper for two reasons. First, the authors are recognised leaders in the field of assessment internationally and have been to the forefront of research in assessment, learning and teaching (ALT) for many decades. Second, and significantly, the principles are advanced in recognition of, indeed in response to, the complexity and ongoing intractability, in some cases, of debates about the roles and functions of different types of assessment. Consequently, they have *real* application for both policy-makers and practitioners, offering, as they do, a way through what often appears conflicting research regarding the role, value and potential of assessment in education. Further, the principles are underpinned by solid technical understanding of, and experience in, educational measurement and psychometrics and the appropriate and inappropriate use of tests in education. As such, they are based on an informed, rather than partisan, perspective that is likely to encourage constructive, inclusive debate across the research and practitioner communities going forward.

For the purposes of this paper, the original principles have been distilled, rephrased and supplemented with additional commentary to benefit readership by colleagues in Ireland in the first instance. Collectively, in our view, the principles provide an appropriate, evidence-based, foundation for pragmatic curriculum reform at primary level and serve to foreground pedagogical concepts and practices that underline the reciprocity of assessment, learning and teaching. Moreover, reference to learning progressions in the original list of principles, and included here, signal that these ideas are conceptualised in the context of outcomes-based curricula, which, although still in its [infancy at primary level in Ireland, is gaining traction](#). The principles may be summarised thus:

1. If assessment is to support learning, it must be built on a solid understanding that learning is an inherently social activity in which teachers and pupils work together to use assessment information to inform learning and, indeed, teaching, in the classroom. Further, due recognition and attention must be given to how pupil motivation and personal identity can be fostered and integrated in tandem with attention to pupils' cognitive development;
2. While sociocultural theory offers a very effective overarching framework of understanding for ALT, attention needs to be paid to ensuring that the curriculum - however it is conceived and designed (see the discussion in response to Question 5) - addressed the requirements of each discipline, subject or domain of learning. In particular, the area-specific modes and models of ALT that are traditionally associated with each (contrast drama with mathematics, for example) should be acknowledged and upheld;
3. Learning progressions, conceptualised as a particular form of 'fine-grained' learning theory, could be helpful in mapping the 'typical' incremental learning trajectories of pupils in different areas of the curriculum. However, from the outset, careful consideration must be given to how ALT activities can be integrated and progressed together incrementally in the classroom, i.e., assessment should not be conceived of, or practiced as, 'an add on'. To achieve this, it might be expected that content, pedagogy and assessment specialists would collaborate from the design phase to co-create such progressions and that, eventually, these progressions would be used by teachers in schools around the country. Given that this an unrealistic and, potentially, unwanted project (the fear being that such progressions would become the *de facto*, 'standard' teaching 'schemes' for schools), it might be fruitful to consider how the learning progression process model could be used to inform teacher professional development. The aim, in this case, would be to introduce teachers to "*some model curricula*" (p. 54), exploration and use of which would serve to build school-based knowledge and expertise about how learning progressions 'work' and can be used optimally. Teachers would be encouraged and supported (internally and externally), subsequently, to apply these skills to adapt the national curriculum to meet the specific needs of their own pupils, thereby continuing to build and expand their expertise;
4. This raises the issue of teacher professional development (PD) more broadly. It must be acknowledged that it is teachers and pupils, with parental/guardian support, who actually implement the curriculum. Consequently, it follows that any 'theory of action' would seek to democratise the iterative process of curriculum design, implementation/field-testing, review and revision and reform. [School-based teacher learning communities](#) that employ a design-based model of PD offer promise in this regard as they proactively seek to optimise teacher and pupil involvement in, and ownership of, ALT. This is essential if teachers are not to feel straight-jacketed by the

learning progressions and interpret them as prescribed, linear, teaching and learning schemes;

5. The development of teacher and pupil autonomy and self-regulation is contingent on participation in ALT practices that prioritise a formative assessment classroom culture in which “insights” (rather than test scores) feed into and influence the nature and direction of learning and teaching in real time. ALT must be learner-centred; assuming a systems-perspective, the learner is at the centre and the system (including actors, policies, curricula and associated documents) is geared towards optimising learning. A sociocultural, systems-perspective also promotes the democratisation of ALT; ideally, the traditional roles of ‘teacher’ and ‘learner’ would dissolve, giving way to a classroom environment in which teachers and learners share responsibility for driving learning forward for the betterment of all. Established, evidence-based ALT practices, such as transparency regarding learning outcomes and expectations, peer- and self-assessment, classroom questioning and discussion and the timely, multidirectional use of feedback, collectively provide highly accessible ways to supporting this kind of classroom culture and should be encouraged and supported, therefore;
6. For the foreseeable future, national and international testing test/survey programmes must co-exist and, ideally integrate seamlessly with, other forms of classroom assessment, such as those already listed, if accountability distortions are to be avoided. Further, efforts at school level to intentionally promote a sociocultural understanding of ALT should be fostered and, if possible, resourced, giving an unequivocal message of commitment to a balanced assessment system. Further, it would be prudent when consider the principles of curriculum assessment to reflect on the overarching aims of primary education in Ireland and the particulars of national curricula, including those which buttress the primary system directly, i.e., the early childhood and Junior Cycle curricula, respectfully, to ensure appropriate alignment.

Reflecting on the principles as originally proposed, it is noteworthy that the authors cautioned that “...some psychometricians might disagree or might not realize why business-as-usual measurement models should not be applied in the classroom” (p. 52), a point which serves to underline why definitive assessment principles are an unrealistic expectation at this time. That said, it is noteworthy, too, that the original principles ‘travelled well’ and translate relatively easily to the Irish system despite obvious differences in educational systems.

Q3. How can a theoretical framework for assessment enhance and promote greater teacher autonomy and agency in the context of a redeveloped curriculum?

[In complementary research](#) commissioned by the NCCA, the importance of providing an overview statement to 'frame' any reformed Irish curriculum was made. An important element of such a statement, in our view, would be the clear articulation of a *conceptual* - as distinct from a *theoretical* - framework. [As argued](#), the key distinction between the frameworks is that the latter is typically based on a formal, well-established and recognised, theory that reflects established interpretations and understandings to which the user is subsequently "bound" (p. 205). [In contrast](#), a conceptual framework is deliberately created - frequently in diagrammatic form - with the specific intention of clarifying and deprivatising "... the system of concepts, assumptions, expectations, beliefs, and theories that support and inform..." the thinking of those proposing a particular argument or document (p. 460).

While a theoretical framework is entirely appropriate in some instances (e.g., the use of [ecological systems theory](#) in the Growing up in Ireland Study), the absence of a comprehensive, universally endorsed, theory - or indeed principles - of ALT at this time, signals that a conceptual framework would be more appropriate. Not only would it grant those authoring the curriculum the flexibility and scope to design a bespoke framework for a redeveloped curriculum, it would also challenge everyone involved to examine and defend personal perceptions and tacit understandings of key concepts in ALT, any assumed interplay between them, as well as expectations regarding how they might support or hinder learning.

To circumvent or shortcut rigorous conceptual debate of this kind would be foolhardy as it would undoubtedly undermine any serious discussion with teachers, subsequently, about a re-envisioned role for them regarding the design, use and interpretation of assessment in the classroom. [Observations](#) (in the context on Junior Cycle reform) that "...international examples of active teacher involvement in high-stakes assessment" and "...research or 'best practice internationally' did not sway the majority of teachers into embracing the change" (p. 125) are salutary. They underline the caution with which change can be met even when reform is 'evidence-based'. This, in turn, underscores the criticality of moving beyond references to international best practice and established theory to create a robust conceptual rationale and framework that responds to the particular contexts in which primary teachers in Ireland work.

In order to promote and sustain increased teacher agency and autonomy, it is recommended that such a framework would explore, amongst other things:

- Core principles of self-regulation, adaptive expertise and social-constructivism and how these impact teacher/pupil roles and responsibilities;
- Key concepts such as alignment, breadth, depth, balance and integration within/across domains or subjects, as appropriate;
- Outcomes-based curricula and learning progressions – their mediation and use;
- Exigencies (notably professional development for teachers) as a central plank of an iterative evolving process of curriculum design, implementation, review and reform.

There is overlap, as one would expect, between what we are recommending here for inclusion in a conceptual framework and the principles of assessment advocated in the previous section of this report. That this should be the case is understandable because it is in the principles of assessment that teacher autonomy and agency is envisioned. There is little point in expending considerable time, energy and resources at the consultative and planning phase of curriculum design if what is produced does not communicate clearly to teachers the key concepts, assumptions, expectations and beliefs on which it is based. Conceiving of curriculum documents as core [boundary objects shared between stakeholders](#) serves as a useful, if sobering, reminder that, in reality, completion of these documents marks the beginning of the curriculum reform process. The next step is made far easier and more palatable for all, however, if it is evident that what is being proposed is premised on a belief and trust in teachers as the key enablers of curriculum reform, and accompanied by a commitment to tangible, sustained support for their work.

We recommend, further, that attention be given in the conceptual framework to the evolution of learning theories over the course of the 20th century also. Why this might be important and, more importantly, how this might advance teacher autonomy and agency, might not be self-evident so we unpack this a little here.

[As argued elsewhere](#), changes in thinking about how people learn influence both how curriculum is crafted and implemented and, in turn, how assessment is conceptualised and used. Without an appreciation for, and understanding of, the history of educational measurement and classroom assessment, teachers will likely find it more difficult to make defensible, informed decisions about how, when, why and for what purposes they employ different assessments in their day-to-day work. Hence, in the interests of teacher efficacy and professional confidence in assessment, we suggest that teachers require an historic barometer to judge past, current and emerging assessment beliefs, practices and instruments.

That there are ongoing debates and disputes about education and the role of ALT would be well known to teachers; however, they might be less familiar with the genesis of current views. Moreover, it cannot be assumed that teachers would be fully cognisant of the relationship between theories of learning on the one hand, and the principles and practices of teaching and assessment on the other or, crucially, that changes in any one of these “...almost always requires a change in the other” (p. 60) [as has been observed](#). Deliberate explication of such interconnections, we suggest, would be important in a conceptual framework for the redeveloped primary curriculum, therefore, as it would prompt teachers to reflect on their own belief systems and mental models of ALT. The intention is to promote informed teacher agency for, [as we know](#), teachers’ beliefs “...about learning, about their roles as assessors and about the ‘abilities’ and prospects of their students, will affect their interpretations of their students’ learning and will thereby determine the quality of their formative assessment” (p. 23).

Some conceptual understanding of the change process itself, and how this manifests in changing conceptions of educational theory, schooling, curricula, measurement and assessment, would also be important for teachers. The idea, [as was famously](#) treated in

relation to the evolution of scientific thinking and practice, that traditional, well-established, and frequently ingrained, mental models and patterns of practice eventually give way to new ideas when sufficient 'turbulence' is experienced by those directly involved, has direct application to education. Further, the realisation that educational change becomes inevitable, and typically occurs, when anomalies and mis/malalignment between key principles and practices become undeniable and overwhelming is an important one. It serves to explain, for example, repeated call for ["...a more complete and inclusive theory of learning to guide the practice of teaching and assessment"](#) , pursuant to [a 'balanced framework of assessment'](#), and concern that imbalance and misalignment persist in the context of increased [performativity](#). Frank acknowledgement and articulation of these issues would be important in framing a reformed curriculum because teacher agency is contingent on keen understanding of the local and global challenges and opportunities that impact their daily lives as professionals.

Q4. How do we conceive standardised tests to avoid distortions or narrowing in the education process such as teaching-to-the test and narrowing of the curriculum (in the context of the 2007 continuum)?

The 2007 continuum positions standardised tests as a predominantly 'teacher-led' form of assessment, and far removed from methods such as self-assessment and pupil-teacher conferencing. Furthermore, [it acknowledges that "no single assessment method is exclusive to AfL or AoL" but that standardised tests "have a stronger AoL focus."](#) Whilst it is true that standardised tests have traditionally been designed to support AoL, it may be more helpful to focus also on understanding these instruments in light of the overarching concepts identified in the response to Question 1. That is, like all assessments, standardised assessments are an integral part of teaching and learning, and like all assessments, the information they provide can be used by various stakeholders to enhance learning. This in turn suggests that it may also be misleading to distance standardised assessments from self-assessment and conferencing, because, as discussed earlier, a child's performance on a standardised assessment may be discussed during a parent-teacher or pupil-teacher conference.

It is especially crucial that standardised assessments are never conceived as a measure of teacher effectiveness. Due to the manner in which these instruments are constructed, it is necessarily the case that some pupils will score below average. Teachers should not view a below-average test score as an indication of poor teaching any more than they would view a child's misconception about a particular topic as observed during a class discussion in this way. Rather, teachers should regard a below-average test score (indeed, any type of test score) as one source of information about where a pupil is in their learning, and what may be the most appropriate next steps for them to take.

It is important to acknowledge that the act of using standardised assessment data to identify the most appropriate next steps in teaching is highly dependent on the exact nature of the information available from the particular standardised assessments in use.

[International literature highlights the potential to use standardised tests for relatively simple purposes such as identifying strengths and weaknesses and also for more deeper analyses such as examining pupils' conceptual understanding.](#) A discussion of the extent to which the standardised assessments currently in use in Ireland allow for the latter is beyond the scope of this paper, but it may be an important issue for the test developers to take into account in future.

The findings from an ongoing piece of research conducted by CARPE and the INTO also point towards a number of practical recommendations that may help in consolidating this understanding of standardised assessments as an integral part of teaching and learning, and as a source of information to enhance learning. These include the provision of professional development focused specifically on standardised assessment, a move towards administering these assessments in the autumn rather than in the summer term and the requirement to report the assessment results in a narrative fashion, rather than in the form of a single test result. This report is due to be released in February 2019.

Standardised assessments should be conceived, like all forms of assessments, in terms of their potential to enhance learning. Some of the practical steps outlined above may help to reinforce this conceptualisation. An additional issue to consider is the perceived “importance” of standardised assessments in contrast to other types of assessments. Returning to the continua proposed in Figure 2, it is quite clear that standardised assessments would best be categorised as a *visible process*. However, it is essential that this is not in any way conflated with its importance. Whilst standardised testing is important, it is not necessarily more important than other types of assessments that teachers and their pupils carry out in the course of everyday classroom activity. Indeed, as outlined in the previous section, they should simply co-exist and integrate seamlessly with these other types of assessment. It may prove challenging to communicate this concept to teachers (because of the fact that other types of assessment are less ‘visible’ than standardised assessments) and indeed to learners (because of the fact that they are often unaware that they are being assessed when assessment takes place in these less visible guises). However, it is perhaps the single most important message that needs to be conveyed if we are to avoid the risk of propagating a culture of curriculum narrowing.

The relative importance ascribed to various types of assessment becomes even more pertinent when we consider what exactly is measured by the standardised tests currently used in Ireland. Indeed, given that the increased focus on standardised testing in Irish primary education in recent years is a key component of the National Literacy and Numeracy Strategy, it may be inferred that they are measures of literacy and numeracy. There is an important distinction, however, between ‘literacy and numeracy’ on the one hand, and ‘reading and mathematics’ on the other. [Policy documentation specifically states that they are not synonymous](#), with literacy defined as *“the capacity to read, understand and critically appreciate various forms of communication including spoken language, printed text, broadcast media and digital media... speaking and listening, as well as communication using not only traditional writing and print but also digital media.”* Similarly, numeracy is *“not limited to the ability to use numbers to add, subtract, multiply and divide”* but also *“encompasses the ability use mathematical understandings and skills to solve problems and meet the demands of day-to-day living in complex social settings.”*

With the above in mind, it seems most appropriate to classify the current standardised assessments as measures of reading and mathematics, as opposed to literacy and numeracy⁶. This is not intended to be a criticism of the current standardised assessments. However, if literacy and numeracy are what is valued, and we accept that standardised assessments do not fully capture these constructs, then, de facto, other forms of assessment that provide information about the additional aspects of literacy and numeracy that they cannot capture must also be considered. Otherwise, undue priority may be placed on reading and mathematics at the expense of other subjects (*i.e.* a ‘narrowing of the curriculum’) – and

⁶ The NCCA point out that the skills as outlined in the current Primary Mathematics Curriculum closely approximate the government’s definition of ‘numeracy’, and as such are not necessarily assessed by current standardised tests.

indeed, [recent consultations with stakeholders suggest that this is already happening \(see p.31\).](#)

More broadly, some of the extant NCCA literature discusses the possibility of structuring the redeveloped curriculum according to a set of “cross-curricular competencies” rather than according to traditional subjects or domains of knowledge. It is acknowledged that no decision has yet been taken on this matter, nonetheless, it seems important at this juncture to consider what the implications of such a restructuring process might be. Cross-curricular competencies are likely to include literacy and numeracy as discussed above - but they may also encompass exceptionally complex skills such as ‘creativity’ or ‘collaborative problem solving’ – skills that international assessment experts agree [will require innovative approaches to assessment far beyond those currently in use in the Irish primary education system](#). These issues will be explored in further detail in response to Question 5, however, it is important to flag them here, because depending on the extent to which a ‘restructuring’ of the curriculum comes to fruition, the act of prioritising standardised tests (of reading and mathematics) over and above all other types of assessment could represent a stark misalignment between assessment and the curriculum.

Q5. What is the rationale for designating or not designating domain specific assessment practices in a primary curriculum?

As mentioned in the previous section, available NCCA literature includes discussions about the possibility of moving away from traditional subjects/domains of knowledge and towards more generic ‘competences’ in the redeveloped curriculum. It is understood that such a move would be in line with the global recognition of the importance of such competences in 21st century society. Indeed, similar discussions have occurred in relation to the curricula of the prior and subsequent phases of education (*i.e.* Aistear and the new Junior Cycle). However, it is important to be cognizant of the complexities of adopting such an approach, and the scarcity of successful exemplars from which it could be informed. There are also two important pre-requisites that would need to be addressed before outlining how assessment should be conceptualised and implemented in the context of a curriculum structured according to cross-curricular competences:

(i) Clarity surrounding the nature of the competences

Six “[priorities for primary education](#)” (*develop thinking, learning and life skills, communicate well, be well, develop literacy and numeracy skills, engage in learning, have a strong sense of identity and belonging*) have been identified. Is the intention that these would serve as overarching, cross-curricular competences in the redeveloped curriculum? Might they be edited, or might other competences be considered for inclusion? Table 1 shows the competences typically included in international frameworks for 21st century competences (according to a [comparative analysis of these frameworks](#), conducted in 2012). It may prove helpful in considering what competences could inform any restructuring of the curriculum that might occur.

Table 1. Competences typically included in international frameworks

Mentioned in <i>all</i> frameworks	Mentioned in <i>most</i> frameworks	Mentioned in a <i>few</i> frameworks	Mentioned only in <i>one</i> framework
Collaboration	Creativity	Learning to learn	Risk-taking
Communication	Critical thinking	Self-direction	Conflict management
ICT literacy	Problem-solving	Planning	Entrepreneurship
Social and/or cultural skills, citizenship	Develop quality procedures	Flexibility and adaptability	Interdisciplinary themes
	Productivity	Mathematics, communication in mother tongue, science	Core subjects <i>e.g.</i> economics, geography
		History and arts	

Table 1 highlights a number of issues for consideration. First, ICT literacy features in all frameworks internationally, but does not currently appear as a priority in the proposed redeveloped Irish primary school curriculum. Second, ‘communication in mother tongue’ (literacy?) and ‘mathematics’ (numeracy?) are often conceptualised as cross-curricular competences, as opposed to being regarded as narrow subjects as discussed in the previous section. This gives rise to the broader issue of how exactly cross-curricular competences should be situated within the curriculum, which is addressed in detail under point (ii) below. Third, “learning to learn” and “self-direction” appear in a few of these frameworks. This is interesting in light of concepts discussed earlier in this paper, in particular the importance of fostering intrinsic motivation through the democratization of learning. According to this philosophy, learners should be supported to engage in regular self-assessment. This was one of the central messages of Black and Wiliam’s seminal work in 1998, and it is also clear from the NCCA’s 2007 guidelines. In practice, however, self-assessment is often subject to [criticisms surrounding lack of reliability and validity, particularly in the case of younger learners and less-able learners](#). Considering the emphasis placed on reliability and validity in assessment discourse, this may cause confusion for teachers about its relative merits. It is important to understand, however, that it is not especially relevant whether learners give themselves similar scores or grades to those of their teacher, rather, [what is most educationally powerful is when learners are accurate when describing the qualities of their work](#). Inaccurate self-assessments occur when learners [do not have a sufficiently clear picture of the targets their learning is meant to attain](#). However, if achieving this picture is one of the key goals of education, the response should not be to avoid the use of self-assessment in the classroom, but to engage in strategies that will increase learners’ capacities to engage in more accurate self-assessment. Put simply, [it may be helpful for teachers not to think about pupil self-assessment as a form of assessment, but instead to think about self-regulation as an essential cross-curricular competence to be developed](#).

(ii) Clarity regarding how the competences would be situated in the redeveloped curriculum

The comparative analysis mentioned above identified three ways in which 21st century competences can be addressed in curriculum development. Specifically, they can be

- a) added to the existing curriculum as new subjects or new content within traditional subjects
- b) integrated as cross-curricular competences that both underpin school subjects and place emphasis on the acquisition of wider key competences
- c) part of a new curriculum in which the traditional structure of school subjects is transformed and schools are regarded as learning organizations

Option B represents the most common approach taken internationally. Furthermore, based on available NCCA literature, it seems unlikely that Option A would be considered for the Irish curriculum, given the clear sense that the existing curriculum is overloaded. Option C also seems unlikely given the disagreement as to whether or not traditional subjects should be completely abolished in favour of competences, and if so, at what stage in the primary

curriculum this would occur. A three-stage model, encompassing a seamless transition from *themes* (up to 2nd class) to *curriculum areas* (3rd/4th class) to *subjects* (5th/6th class) seems to be supported by the majority, but it seems there are also many concerns associated with this model⁷.

If an approach similar to Option B were adopted, there are several approaches to assessment that could be taken. The comparative analysis outlined four approaches to assessment currently evident in international curricula, namely:

1. cross-curricular competences are explicitly assessed
2. cross-curricular competences are implicitly assessed
3. subject-specific competences are assessed
4. knowledge is assessed

Clearly, assessment options 3 and 4 are not aligned with framework option B, however, despite this, they remain the most common. This failure to address the ‘assessment piece of the puzzle’ **remains the single biggest barrier to international efforts to integrate 21st century competences into school curricula**. This is surprising, given the well-established awareness of the prominent influence that assessment tends to exert over the curriculum ([an issue that has previously been highlighted using the Senior Cycle of Irish post-primary education as an example](#)). Indeed, if a restructuring of the curriculum based on cross-curricular competences were to be pursued, it follows that the **cross-curricular competences would need to be explicitly assessed** to ensure that such a curriculum were realised (*i.e.* that it would become both the *implemented* and the *attained* curriculum, and not simply the *intended* curriculum).

‘Explicit assessment of cross-curricular competences’ would of course mean different things depending on the competence in question. In practice, it can be difficult to make sense of 21st century competences, and thus to explicitly promote and assess them, without reference to some sort of content knowledge. This might mean that assessment would still occur in the context of a science/history lesson, but that it would not focus solely on knowledge acquisition, but also on competence development. Alternatively, things could be taken a step further, whereby assessment would be focused solely on real-world competences, and subjects would merely support the exploration of big ideas and the generation of new knowledge.

At this point it should be noted that this discussion can be mapped quite clearly on to aspects of the [NCCA-commissioned paper on curriculum integration prepared by Karin Bacon](#). Bacon discusses how curriculum integration can occur at three levels. Level 1 can be conceptualised as *multidisciplinarity*, whereby central themes are identified across many subjects, but

⁷ How can it be facilitated in small schools with multi-class settings? How exactly do curriculum areas from subjects? Might teachers become ‘pigeon-holed’ to particular stages? Is the inclination to retain subjects in the senior classes driven primarily by the intention to prepare pupils for post-primary school, and is this desirable?)

comprehension – and assessment – remain within discipline boundaries. She gives the example of understanding a ‘pattern’ as a concept that can occur in number *“in mathematics, in musical notation, and in critiquing the results of a science experiment.”* In level 2, *interdisciplinarity*, subjects remain relatively clear in their differences and unique contributions, but comprehension is organised by key interdisciplinary concepts. Bacon notes that *“boundaries may be blurred where it may not be immediately obvious which subject is being taught at a particular moment”* and that *“assessment may be disciplinary but at the same time focus is also given to and a grade may be awarded for the interdisciplinary aspect that has been demonstrated.”* Finally, she presents the third and most sophisticated level of integration, *transdisciplinarity*, whereby *“the organising centre is the real world context, and learners are expected to explore a problem or issue”*. She presents the International Baccalaureate Primary Years Programme as an exemplar of a transdisciplinary curriculum, and notes that this programme *“requires children in their final year of primary school to carry out an extended, in-depth collaborative project called the PYP exhibition”*.

It would be premature for us to make any definitive recommendations about how precisely cross-curricular competences should be situated in the redeveloped curriculum (or even, to what extent we should even be trying to achieve some form of interdisciplinarity or transdisciplinarity just yet). This will require more comprehensive consultation with national and international experts from a broad range of fields. What we *can* say is that (i) any attempt to identify cross-curricular competences should give close consideration to what is likely to remain important in the coming years despite rapid societal changes, and (ii) any competences identified in this way should be clearly unpacked to the point that it would be possible to work on assessing them in meaningful, valid and reliable ways. This would involve the provision of operational definitions of each competence, including examples of what might be expected from pupils at certain ages/stages of the curriculum. It would also involve mapping out ways in which competences might manifest themselves across various subject domains, with illustrative examples.

Q6. How or what is it that should be spotlighted for assessment when we think about a broad and balanced curriculum?

Our response to this question doubles up as a summary of this paper. It is recommended that, when thinking about and discussing assessment in the context of the redeveloped curriculum, the following are spotlighted:

1. Assessment is an integral part of teaching and learning. In practice, the three are inseparable, and this should be reflected in all definitions of assessment, in policy documentation and practice. This tripartite understanding of assessment, teaching and learning is an essential precursor to dealing with key challenges in contemporary education, such as how to adapt to the rapidly changing nature of knowledge.
2. Assessment exists on a continuum, ranging from organic assessment activity that naturally occurs day-to-day in the classroom, to more visible assessment processes that occur at more sporadic intervals. The ultimate purpose of all of these types of assessment is to provide information for learners.
3. Great care needs to be taken with the language that is used to discuss assessment. For example, terms such as 'formative' and 'summative', for example, are ubiquitous and although it is important for teachers to be familiar with these terms, the practice of *rigidly classifying* every instance of assessment as being either formative or summative may not be the most useful starting point for informing everyday practice. Similarly, statements such as 'assessment occurs on a continuous basis' or 'as a natural part of classroom activity' should not be taken to mean that it is possible to assess *everything* about *all learners* in real time. This is an enormous expectation, and almost certainly unrealisable. Rather, assessment could be considered as a sampling process, whereby we take periodic samples of what children learn and infer meaning and engage in some extrapolation from this. Finally, the relative 'visibility' of standardised assessments should never be regarded as an indication of their importance relative to any other form of assessment.
4. A number of guiding principles of assessment that underline teacher agency and autonomy and pupil self-regulation within a balanced assessment model have been identified. Significantly, these principles are evidence- and research-informed and reflect the expertise of key thinkers internationally. Framed within a meta-theory of socioculturalism, they translate well to the Irish context with its emerging focus on outcomes-based reform.
5. The development and articulation of a bespoke, conceptual framework explicating the key concepts, assumptions, expectations, beliefs, and theories on which the reformed curriculum will be based is important. Not only will it aid stakeholders' understanding of any proposed curriculum; crucially, it has the potential to enlist teachers' support by articulating clearly fundamental belief in, and commitment to, teacher

professionalism. This is essential if teacher agency and autonomy is to be respected and promoted.

6. Some caution is advised at this stage in deciding to restructure the curriculum according to cross-curricular competencies as opposed to subjects. The complexity of such an undertaking, and the implications for assessment should not be underestimated. At this point, such a move may still be premature, given the relative lack of precedent (at scale as opposed to in some small-scale initiatives) from other jurisdictions to guide such an approach. We must be mindful that any changes have the potential to dramatically influence practice across an entire system.

Concluding Comments

[In an article](#) critiquing curriculum and assessment reform published more than a decade ago, the former CEO of the NCCA surmised that, in Ireland at that time, articulation of what it meant to become a successful learner appeared “...to signal an emerging new-form/re-form of curriculum” (p. 190). In response, research was called for that would explore further curriculum reform for a knowledge society and the interplay and relationship, if any, between developing curriculum trajectories, on the one hand, and assessment and testing reforms, on the other.

We are strongly of the view that, at a minimum, assessment needs to be front-loaded in the planning for and design of any new-form/re-formed primary curriculum. A common language pertaining to assessment is required for all stakeholders to facilitate discussions leading to concrete planning and fidelity of implementation around embedding assessment in teaching and learning. Such a process should ensure that no one purpose or approach to assessment should dominate others. In that context we need to be mindful of evolving conceptions of curriculum, learning and pedagogy when taking decisions about what form curriculum should take. Additionally, appropriate attention needs to be given to issues related to teacher learning (pre-service and CPD).

Addressing the questions that provided the guiding framework for this paper has provided us with an opportunity to highlight issues relevant to what needs to be a broad discussion of how to proceed. In addition to studies focused specifically on assessment in primary education, we would welcome research in complementary areas including (a) examination of how learning progressions might be developed in the Irish context and (b) exploration of stakeholders’ understanding of outcomes-based reform. Given that a single paper cannot provide all the answers to the questions raised as the interplay between assessment, teaching and learning is complex and often context-dependent, the programme of research we suggest will be crucial in developing a well-informed policy agenda for assessment in Irish primary education.

Table A1. A Note on Assessment Nomenclature

Formative and Summative Assessment:

Assessment is often 'categorised' as being either **formative** or **summative** in nature. [This distinction was originally used in 1967 by Michael Scriven in reference to *programme evaluation*, but Benjamin Bloom and his colleagues at the University of Chicago subsequently began using it in reference to *assessment*](#). Bloom was a proponent of the idea that learning outcomes could be improved if teaching were more individualised, *i.e.* if evidence about a particular student's misunderstandings could be used to adapt teaching strategies for that student on an ongoing basis. Significantly, he was the first to associate the term 'assessment' with this type of activity. Formative assessment thus subsequently came to be used as an umbrella term for any activity that involved collecting information about students **to promote further learning**. Summative assessment, on the other hand, came to replace the more traditional meaning of the term assessment, *i.e.* collecting information about students **to determine whether or not learning has occurred**.

In the intervening years, divergent uses of the term formative assessment have emerged. Some focus superficially on the **timing or frequency** of assessments, *i.e.* formative assessments take place intermittently, *alongside* teaching and learning, as opposed to *after* teaching and learning. Others emphasize the fact that the **nature of the information collected** determines whether or not an assessment is formative, *i.e.* whether or not it is detailed enough such that it identifies specific areas of weakness and can therefore inform future teaching strategies. [More recently, it has been argued that the presence of these characteristics alone are not sufficient for an assessment to be truly 'formative'](#) in the sense that Bloom originally intended, *i.e.* for it to promote learning. Proponents of this view thus adopted an additional term, namely Assessment for Learning (AfL).

Assessment for Learning (AfL) and Assessment of Learning (AoL):

Assessment for Learning (AfL) explicitly extends the concept of formative assessment to include the learner in the assessment process. It is grounded in theories of metacognition, motivation, and self-regulation, it involves strategies such as sharing learning intentions and success criteria with learners, providing them with detailed feedback on their performance, empowering them to continuously monitor their own progress, and facilitating self- and peer-assessment. In the context of AfL, learners have been described as being ["inside the assessment process, watching themselves grow, feeling in control of their success and believing that continued success is within reach if they keep trying."](#) AfL is contrasted with Assessment of Learning (AoL), which has essentially been used as a synonym for summative assessment. Some are also quite explicit about the distinction between AfL and formative assessment, however, [others use the terms interchangeably](#), arguing that both are intended to describe any kind of assessment that promotes learning. Some others use a *third* term, namely, Assessment *as* Learning, to signify the active involvement of learners.

Intended Purposes and Functions Served:

Subtle differences in the way each of the above terms are used have been debated at length in the literature, and this has understandably caused confusion. [Recently, it has been purported that it is helpful to think of the terms AfL and AoL as referring to the purpose for which an assessment is carried out \(*i.e.* to promote learning or for accountability/ranking\), and the formative/summative distinction as referring to the function an assessment actually serves \(*i.e.* an assessment becomes 'formative' if information it provides is actually used to adapt teaching and meet learning needs](#). Note that this also implies that even 'AoL type assessments' have the potential to serve formative functions).

In this paper, we use the terms in this way, acknowledging that they have been used differently by others. We also note that this perspective seems in line with how the terms are used in existing policy documents pertaining to the Irish education system. Indeed, the [2007 guidelines](#) outline two 'approaches' to assessment (namely AoL and AfL) and four 'purposes' (summative, formative, evaluative and diagnostic). We welcome the fact that Irish primary teachers are already familiar with these terms as we begin to think about assessment in a redeveloped curriculum. That said, we are also mindful that an *over-reliance* on distinctions risks [creating artificial and unhelpful dichotomies](#) and makes it [difficult to think about assessment in an integrated way](#). With this in mind, we will argue throughout this paper that it is *most* helpful to think of assessment first and foremost as an integrated entity that exists on a continuum, and we avoid constantly focusing on rigid distinctions between these different 'types' of assessment.

