Coherence and disparity in assessment literacies among HE staff

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Abstract
Assessment literacies are finding leverage, but there is little exploration of links between theory, practice and perceived understandings in HE. This paper builds on and consolidates research over ten years that evaluates assessment literacies in HE lecturers in Education, Science and in staff developers by presenting a comparative view of the data. The results indicated that there was generally a good understanding of theoretical and practical aspects of SA across all groups. However, understandings of FA showed little concordance between and within the groups, particularly within the staff developers, but this group was better at clarifying the necessary link between FA and feedback. Although education lecturers had a firmer grasp of central terminologies, in general there are still deficits in understanding how these terms interrelate. Staff developers' relative weakness of understanding in some areas is concerning since this group shapes those who teach. These issues are exacerbated by a lack of acknowledgement that they exist, which may seriously hamper development of both staff and students in clarifying processes they encounter daily. Basic shared understandings are required that can translate into personal coherent assessment literacies. As a community we need to take on this task, because as individuals, or individual groups, we will continue to have fragmented assessment literacies.

Key words
Assessment literacies, formative, practice, staff development, summative, theory.

Introduction

This paper uses empirical data on perceptions and understandings of assessment theory and the links to practice collected over the course of the past decade or so. The earliest paper evaluated data collected from an education faculty (Taras, 2008); subsequently Taras & Davies (2013, 2014) analysed and evaluated data from a science faculty in the same University; finally data were collected from staff developers from a cross-section of UK providers (Taras & Davies, 2017). The continued validity of the data is principally due to two factors. First the theoretical literature on assessment seems to be at an impass as little progress has been made in the last ten years, as will become evident, and second very few data have been collected since the studies above were published.

Our goal is to consolidate the comparable data, to draw comparisons between the data sets, and if possible to present meaningful conclusions that have implications for both theory and practice within assessment, learning and teaching in HE in particular. In this way we hope to enrich the on-going debate on assessment literacy by comparing in particular the understandings of front-line teaching staff who shape the assessment processes with the people who have responsibility for training them.

Background

Recently work has begun to address the importance of assessment literacies in education more generally and higher education (HE) more specifically (Price et al., 2012; Willis et al., 2015). Our work is at the core of assessment literacy in focusing on theoretical relationships of key terms and their inter-relatedness, exploring how assessment literate different HE staff groups are. This helps to disentangle conceptual intricacies which may not be visible in practice.

Assessment is not an isolated concept, practice or understanding. Assessment, in any context, is a decision which is justifiable and justified (Scriven 1967; Taras 2012b, 2016). The justifications address the criteria and standards: these may begin as implicit in the assessor's head, but the justifications reveal not just the criteria and standards, but also personal and professional

hidden agendas (Taras 2016). Assessment is linked directly to issues of justice, which is why it needs to be justified, explicit and challengeable. It also needs to be closely contextualised and inclusive and have shared understanding with all the protagonists involved. Therefore, being assessment literate requires understanding of epistemologies, concepts and practices within specific and varied contexts (Taras 2012b, 2016).

Difficulties arise in general and in HE in particular, because shared understandings are not addressed systematically and inclusively: these shared understandings need 'reinventing' regularly and within each new group or community. As tutors, because we have years of experience of assessing, it does not mean that we do not need to adapt to new circumstances. Change is not bad, losing sight of the implications on practices and people can be very damaging.

Assessment is often seen as a sub-set of curriculum development, rather than being of significance in its own right, yet it is what students focus on and its outputs are central to how our universities function and are themselves assessed. Assessment is therefore of critical importance across university processes, and particularly in all aspects relating to learning and teaching, with which assessment is often viewed as a more junior partner. Thus it could be argued that assessment is the most crucial task that academics do, hence our focus, and its significant contribution to both the UK's National Student Survey (Yorke, 2013) and Teaching Excellence Framework (http://www.hefce.ac.uk/lt/tef).

The present work contributes to an increasing body of assessment literacy literature that has explored how participants in the assessment process understand and inter-relate commonly-used terms, though much of the earlier work did not use the term 'assessment literacy' (Maclellan, 2001, for HE and Hargreaves, 2005, for the compulsory sector). Both Maclellan (2001) and Hargreaves (2005) explored concepts and principles of assessment and found both a general lack of alignment in understanding and disparity in principles held and the participants' practice (Price et al., 2012, Willis et al., 2015).

Being assessment literate is necessary for educated individuals to be able to make informed and ethical choices in any given context.

"Assessment literacy (in any given context) may be defined as an understanding of the issues, general and specific criteria, and standards which may enable an individual to communicate efficiently with individuals in a similar context and also to negotiate meaning (coherently) from an informed position, on assessments of processes or products made within that context." (Taras in progress).

Etymologically, being literate requires an understanding of the subject in question. This definition requires clarity and understanding concerning the parameters of assessment, that is the criteria and standards, and how assessment is carried out and contextualised with the other protagonists. Thus, one important aspect of assessment literacy is a coherent and clear understanding of terms and how they interrelate. This definition thus agrees with that of Willis et al 2013:

> "…the authors define teacher assessment literacies as dynamic social practices which are context dependent and which involve teachers in articulating and negotiating classroom and cultural knowledges with one another and with learners (Willis et al 2013, 241)"

Willis et al's 2013 definition is limited to educational contexts, particularly the classroom, but obviously, understanding assessment and being assessment literate is not limited to any single context.

During the last 25 years, HE discourses have moved from learning and pedagogic practice as a subject transfer paradigm, that is, the brain as empty box to be filled, towards learning as a constructivist and social constructivist process which requires discussions and practices of inclusive pedagogic alignment and coherence. The important words are 'discourses', i.e. what we say, and 'towards' as the alignment between assessment and learning and teaching practices and theories do not accord with many of our claims and discourses of learning centredness where students have a voice, as recent research shows.

Therefore, making it explicit and socially acceptable to share assessment literacies and discuss all aspects of assessment, judging, marking and grading, will go a long way towards creating integrated curricula and uniting students and tutors as partners in learning: this is particularly true in HE but is also pertinent at all levels (Taylor and Robinson, 2009). Educational practices are perceived as requiring more direct engagement with students' inclusion in their own learning choices and this is

increasingly spilling over into assessment processes and products (Berry and Adamson, 2011; Merry et al, 2013).

The importance of assessment literacies has not gone unnoticed and the London Review of Education (December 2015) had a special issue to highlight this. The Editorial is titled "Assessment literacy: understanding relationships between feedback and learning" (Hughes and Hargreaves, 2015). While agreeing with the value of this focus, our work explores the relationship between all elements of assessment and how these support learning.

> "We are keen to promote assessment literacy for both staff and students so that assessment is more widely understood as being key to learning at all levels" (Hughes and Hargreaves, 2015)

They also provide pertinent information to newcomers to the term:

> "Assessment literacy is not yet an established term…We might expect that assessment literacy is not something that can be imposed or 'given' to those who undertake assessment, but is a self-directed growth in understanding of assessment purposes and processes that takes place cumulatively over time (Hughes, 2014)"(Hughes and Hargreaves (2015)

The desire to support student learning in the classroom, free of examinations either internal or external, has led to the demonisation of so-called summative assessment (SA) in the literature, where it is little discussed theoretically, other than to report on its potential functions. Notable exceptions are Scriven (1967) and Taras (2012b, 2016) who inter-relate processes of assessment within potential functional contexts. On the other hand, discussions about formative assessment are many, although most are linked to its functions (Taras 2012a). This on-going debate is seen as negative by Lau (2015) and Taras (2015) because as part of the dichotomy between SA and formative assessment (FA), feedback is generally only associated with FA, and much of the potential of using SA for learning is thus excluded.

Significantly, the paucity of proper engagement with the disentangling of summative and formative functions and processes and their relationships to learning has led to a myriad of choices of meanings, which has impeded the development of assessment literate stakeholders: students, tutors, managers and those who train tutors and managers. These persons are limited in their understandings precisely because of the limitations of the available theoretical frameworks, developed by those perceived to be in authority, be they researchers or those who use outputs of research to inform staff at the chalk face. Consequences of unaligned assessment theories and practice are that learners are exposed to disparate practices and sometimes theories (particularly students of education) and their confidence in assessment processes becomes diminished, and student-inclusive assessment is more difficult to implement (Rust et al., 2005; Cowan, 2006; Lindblom-Ylänne et al., 2006; Smith and Sodano, 2011). SA and FA are not mutually exclusive, on the contrary both processes are identical in that a judgement is made of the work using explicit or implicit parameters, i.e. criteria and standards, within any given context. Both SA and FA can produce grades and information for justifying the judgement and also for future improvement. The expectation is that when this information is used, it becomes formative (Taras, 2016). Therefore both SA and FA have the potential to be 'of' learning and 'for' learning. Even external examinations provide information linked to standards through the grade.

Methods

All data are based on the results of a single, well-established and piloted, questionnaire of 44 questions (Appendix 1). Its development was discussed in Taras (2008a) and as such is not further considered here.

The questionnaire was completed by 50 lecturers in education in 2007 and 50 lecturers in health and life science-related disciplines in 2010, all at the same English University. Education staff were canvassed at an 'away day' event and the scientists were canvassed as they met as academic teams. Eleven staff developers were canvassed in 2011 at an event concerning learning and teaching practice, and a further participant completed the questionnaire in 2012. The nature of the staff developers group is explained in full in Taras and Davies (2017); they were each from a different UK HE provider; all had a national-level involvement in the external recognition of taught programmes for junior academic staff in learning and teaching, had established institutional practice in staff development. Responses from each group in isolation have been published: educators in

Taras (2008a); scientists in Taras and Davies (2013, 2014); staff developers in Taras and Davies (2017).

All were told that the questionnaire must be completed anonymously and to answer the questions in order and not to go back. They were told not to confer but that they could ask for clarification of any question. No respondent took more than 15 minutes to complete the task.

In the main the questions asked for a yes/no response, though some required written comment: questions 1 and 3 asked for a rough definition of first summative and then formative assessment; questions 2 and 4 asked for examples of summative and formative tasks, respectively; question 15 asked for the relationship between formative work and summative work; and questions, 42 and 43 asked again for definitions of summative and formative assessment. For the questions requiring interpretation, key words were identified to find the general trends and the responses were classified, where possible as 'as' or 'for' learning.

Results

In general, definitions of SA were classified as 'of learning', but some science lecturers for both the first and second definitions and one staff developer for the first definition gave responses that were classified as 'for learning', indicating a fundamental misunderstanding (Table 1). However, fewer staff developers gave a definition classified as 'of learning' for the second definition, as opposed to the first. Education lecturers made no explicit link between feedback and SA, whereas small proportions of science lecturers (second definition only) and staff developers did (Table 1).

Neither science lecturers nor staff developers had the consistency of thinking of the education lecturers in the classification of the definition of FA (Table 2). Staff developers had a notable change in thinking, where only 69 % gave a clear response when asked for a second definition (and a parallel change in association with feedback to students. Many science lecturers were confused, giving definitions that were clearly 'of learning', more so than were confused about SA; also all links to feedback in FA disappeared in the second definition. Staff developers generally, but by no means always, associated feedback with FA, as opposed to the other groups. 'Examination' featured heavily in education lecturers' examples of SA tasks, much more so than for the other groups (Table 3).

There is more consistency in definitions of SA than in FA across all groups (Table 4). Education lecturers showed the greatest consistency of response for both SA and FA. Science lecturers showed a considerable degree of inconsistency in both, but the greatest inconsistency was shown by staff developers for FA. In comparing first definitions with examples given there is again more consistency for SA than FA (Table 5). Again education lecturers are more consistent. Science lecturers showed the greatest inconsistency for SA, and staff developers for FA.

Almost all staff use FA tasks in class, though for homework science lecturers use FA tasks less than the other groups (Table 6). In answering questions about conflating or not FA and SA each group showed consistency of thinking, and there were no clear differences between the groups and on which they prefer (Table 6).

Most of the respondents tell students that tasks are formative, but a significant proportion either do not or do so only 'sometimes' (Table 7). The staff developers always explain how a task is formative but the other groups often do not do this. Education and science lecturers generally either always mark or always do not mark formative work, but staff developers were not as rigid: about a third responding 'sometimes', and much fewer always marked formative work. Similarly, staff developers were more flexible in grading formative work and fewer always graded formative work. Most respondents regarded formative work as related to summative work, and some education and science lecturers regarded them as unrelated. Again staff developers showed flexibility in that approximately a quarter recognised that a relationship may exist dependent on circumstances (Table 7).

In describing how FA and SA are related, approximately three-quarters (76 %) of education lecturers, two-thirds (69 %) of staff developers but only one-third (32 %) of science lecturers, regarded FA as leading to SA (Table 7).

Most respondents claim to use student self-assessment (ssa) (Table 8). Staff developers, in comparison to the other two groups, seem to shy away from using ssa as a summative exercise, preferring to use ssa formatively, though no group indicated heavy use of ssa summatively. Only about one-third of all respondents thought that ssa involves both SA and FA (Table 8).

Most respondents, though slightly lower proportion of staff developers agreed that theory is important for teachers (Table 9).

Almost all respondents agreed that SA can be used for end-of-course grades, and a significant majority that SA can be used for mid-course grades (Table 10). However, across all groups between 20 and 26 % thought SA could not be used for mid-course grades. Staff developers were more reluctant to use FA for end-of-course or mid-course grades than the other two groups (Table 10).

Most respondents regarded SA as assessing product and FA as assessing process (Table 11. Nevertheless, a significant minority of science lecturers disagreed that SA assesses product, and significant minorities of all groups disagreed that FA assesses product. There was much less consensus on asking about whether or not SA assesses process and FA assesses product, many respondents answering 'no' to each question.

Most respondents recognised that SA assesses for validation, but approximately one-third of science lecturers believed that it did not (Table 12). A lower proportion of staff developers recognised that SA assesses for learning than did either group of lecturers, although there was still some doubt. There was general agreement that FA assesses for learning, but a large degree of uncertainty across all groups about whether FA assesses for validation. As expected, FA was seen as providing useful feedback by almost all respondents (Table 13). Most recognised that SA can be used to provide useful feedback, particularly the education lecturers. Though SA usually results in the provision of a grade, a minority of each group did not equate this with useful feedback to students, although there was some doubt.

The staff developers regarded SA and FA as more similar and less different processes than did the lectures (Table 14). In particular the education lecturers found SA and FA more different and less similar processes than the other groups. Education lecturers were most confident that they knew how FA and SA related to each other, and science lecturers the least confident (Table 15). However, a significant minority from each group chose not to answer the question.

Most respondents thought students understand SA, but fewer thought students understand FA, especially the staff developers (Table 16). While most respondents thought students focus on SA, including all the staff developers, less than a third of respondents in each group thought students focused on FA, and only one staff developer.

Discussion

Though it is positive that most respondents identified SA as being 'of learning', it is odd that staff developers for the second definition seemed less certain about SA: only 69 % responded (Table 1). This may show the impact of the questionnaire on their thinking: 31 % were unable to commit themselves clearly. In general there was a dearth of association between SA and feedback to students. Given the current state of understanding about assessment and assessment theory where sometimes SA is isolated from feedback and FA (Taras 2012a,b), it is nevertheless gratifying that a few science lecturers and staff developers still believe that all assessment has useful feedback potential. It is, however, surprising that so few staff developers and no education lecturers who made a connection.

The literature universally associates the necessity of feedback with FA (Sadler 1989, Taras 2009, Black and Wiliam 2009) and this is strongly evident in staff developer responses to definitions of FA, but it is of concern that lecturing staff do not reflect this position.

There seems a recognition that SA tasks need not be examinations for the science lecturers and staff developers, whereas education lecturers strongly associate SA with examinations perhaps reflecting practice in the compulsory sector. Greater consistency in definitions of SA (Table 4) may indicate more rigid views than of FA, which seems a more fluid concept from our results.

The increased consistency between definitions and examples in SA (Table 5) again points to SA being a more fixed and better understood concept. The erroneous definitions of SA and FA coupled with inconsistencies in definitions and examples suggest that many staff across all groups tested have little expertise in assessment, especially its theory and principles. The inconsistency from staff developers in the understanding of FA is a concern since these staff are involved in shaping the understandings of other staff. This may to some extent explain the lack of understanding in the other

staff groups, though education lecturers are clearly not so influenced and perhaps their understandings originate elsewhere, for example the compulsory sector.

We found that FA tasks are more common in classroom work than for homework, aligning with the assessment for learning literature, where FA is typically regarded as a classroom activity (Gardner, 2006; Stobart, 2008; Berry and Adam, 2011). Most but not all assessments in HE conflate FA and SA, the exceptions typically being unseen examinations and end-of-course research projects, thus it was surprising that few respondents reported conflation or separation only 'sometimes'. Also about half the staff developers reported they conflate FA and SA, yet in their roles in working with academic staff a value approaching 100 % would seem more logical. Much assessment for learning literature originating in the compulsory sector recognises the desirability of separating SA and FA functions (Black et al, 2003; Gardner, 2006; Wiliam, 2009; Havnes and McDowell, 2008; Stobart, 2008; Black and Wiliam, 2009) so it is surprising that more education lecturers conflate SA and FA than separate them. Using SA tasks for learning through feedback has always been a prerogative of higher education and reduces unnecessary duplication (Taras 2012b), although this is also very important in the compulsory sector, particularly in classroom assessment (Black, 2015).

In terms of information given to students on FA the staff developers are far more flexible in approach, perhaps reflecting a more mature understanding of assessment. Also staff developers show good practice in always explaining how tasks are FA to their students. A significant proportion of all respondents excluded grading from FA (Table 7), in accordance with some literature stemming from the compulsory sector (Black et al, 2003), and there may be an over-reliance on this literature in the absence of HE-specific literature. Without grading it is more difficult for students to understand their own position against established criteria and standards (Taras, 2015). The notion that FA leads to SA is founded in the compulsory sector (Black et al 2003, Black and Wiliam 2009, Wiliam 2007, 2009), where the concepts of FA and SA are based on functions and technically have no relevance to uses and processes, which are in discussion here (Taras, 2012a,b). The penetration of compulsory sector thinking into HE is perhaps demonstrated by the much higher identification of FA leading to SA by education lecturers and staff developers.

There was a general reluctance to use ssa summatively (Table 8), perhaps related to risk of involving students and the association in the literature between FA and ssa (Sadler, 1989; Black and Wiliam 2009) and generally excluding the link between SA and ssa (Taras, 2012a, 2015). The highest level of reluctance was shown by the staff developers, which is surprising, given that they are recognised as specialists in HE learning and teaching. It is possible that expertise in learning and teaching does not necessarily indicate expertise in assessment. The implications for practice of excluding students from assessment are enormous in a sector which purports to be learner-centred.

Although most respondents agreed on the importance of theory (Table 9), in general other responses did not indicate a strong understanding or utilisation of this theory in practice. A minority of staff developers regarded theory as unimportant, seemingly disregarding the notion that theory is necessary to explain and allow the improvement of practice.

Some respondents thought that SA could not be used for end-of-course and mid-course grades (including 23 % of staff developers, Table 10). This bears no relevance to either theory or practice. There is apparent disjunction in the relationship between FA and grading across the board. Eliminating the possibility of FA in end-of-course grading is counter to discourses of lifelong learning and progression.

The separation in assessing process and product as regards FA and SA generally reported and exemplified by the staff developers (Table 11) indicates an erroneous link of product with SA and process with FA. The literature is silent on such links so where these discrepancies arise is unclear. Both SA and FA can, of course, assess both process or product (Taras, 2009, 2012b, 2016).

In respect of the questions relating to validation and learning, a lack of consistency was clearly evident in understanding the relationships between SA and FA functions. Any assessment can be used for a wide variety of functions including for validation and for learning, whether the focus be on FA or SA. Worryingly our results from all groups seemed to negate this. By not acknowledging that summative work is useful for both validation and learning lecturers will miss opportunities to use such assessments to improve students' learning. There is a significant implication for practice here, especially given the stance taken by the staff developers. Though there is nothing to suggest that SA cannot provide useful feedback to students, the lowest proportion not recognising this was from the

staff developers (Table 13), suggesting they are limited in their thinking and understanding by the rhetoric of fixed categorisation of terms.

Though staff developers in particular regarded FA and SA as generally similar processes (Table 14), they identified significant differences in their responses to other questions comparing FA and SA, perhaps reflecting the generic nature of any assessment process. Education lecturers regarding SA and FA as most distinct may reflect the assessment literature stemming from the compulsory sector (Taras, 2012a). The education lecturers' and staff developers' confidence in understanding how SA and FA relate to each other (Table 15) was not borne out by their answers to other questions, thus they may be overconfident in their beliefs. Science lecturers were least confident and perhaps more honest, given that they had been able to evaluate their own understandings through completion of the questionnaire thus far. Confusion generally is indicated by the relatively large proportions that refused to answer the question.

That a low proportion of staff developers in particular thought their students understood FA (Table 16) might be explained by the nature of the group they regard as students. They may have been referring to the lecturers that they teach as their student group. If so this is an admission that they have been ineffective in promoting shared understanding of terms. In any case smaller proportions thought students understood FA than SA and this may reflect student focus on graded activities and a poor understanding of the purpose of FA or engagement with it. Our data confirms the generally held belief in staff that students focus on SA and not FA. Whether this belief is realised in the respondents' students is unknown. However, that about a third of lecturers believe that their students do focus on FA is encouraging; and again the very low proportion of staff developers believing this may reflect their lack of confidence in their potentially different student group. More generally there is an issue in that staff are not communicating the nature of SA and FA to their students, which might be explicable if staff themselves do not fully understand these terms and issues.

Irrespective of the student group or the staff delivering in, for example science or performing arts, at all educational levels, in all cultural contexts, and be the 'students' undergraduates or staff members, the relationships between SA and FA and processes and functions remain the same; as such contextual factors do not and should not impinge on understandings of assessment theory and practice.

Assessment seems increasingly to have taken two quite divergent and distinct routes which are being treated as two dichotomous and distinct types. On the one hand, there are product or process assessments often linked to so-called SA, and on the other 'classroom assessment', variously called FA, which is part of the interaction of learning and teaching and which does not seem to be made to follow the same rules as the product assessment, which is graded and used for validation or accreditation. SA has been demonised as the negative face of assessment and FA as the positive face. This SA and FA dichotomy had its origins in Bloom et al (1971) and their interpretation of Scriven (1967). Lau (2015) evaluates and maps the development of this dichotomy for HE and comes to the same conclusions as Taras (2007, 2012a, 2016) and Taras and Davies (2017) who have examined both the HE sector and also the compulsory K12 sector by evaluating the work of Black and Wiliam and researchers forming part of the Assessment Reform Group (ARG), including Gardner (2006) and Stobart (2008). Black and Wiliam (1998) justified their exclusion of SA research from their review by stating they wished to focus on assessment which supports learning and they consolidated this stance in their book Black et al. (2003), which is used extensively in teacher education in the UK.

Overall we revealed a general lack of conformity of understanding, both across and within the groups, for example in distinguishing between process and product and the lack of specificity and transparency of processes of assessment. Clearly there are significant issues here, but there is some lack of appreciation or acknowledgement that these issues exist (Table 15), and this may seriously be hampering development of both staff and students in giving clarity to the processes they encounter daily. Possible mechanisms to overcome the lack of communal assessment literacies involve communicating and agreeing on our discourses, and relating the discourses to our practices and the implications for both theory and practice. This requires an unpicking and agreed understanding of theory. Only then can we move forward with transmitting our coherent discourses to tutors and students and involving them in understandings, which will improve their learning. There is a

long way to go in HE in developing basic shared understandings that can translate into and lead to personal coherent assessment literacies. As a community we need to take on this task, because as individuals, or individual groups, we will continue to have fragmented assessment literacies.

Appendix 1

Questionnaire on summative and formative assessment

Where 'YES – NO' or 'SURE – NOT SURE' is presented, please circle your choice.

1. Give a rough definition of summative assessment.
2. Give an example of a summative assessment task.
3. Give a rough definition of formative assessment.
4. Give an example of a formative assessment task.
5. Do you use formative assessment tasks with your students? YES – NO
6. Do you use formative assessment tasks in class? YES – NO
7. Do you use formative assessment tasks for homework? YES – NO
8. Do you keep summative and formative tasks separate? YES – NO
9. Do you conflate summative and formative tasks? YES – NO
10. If yes, give an example.

If you use formative assessment with your students:

11. Do you tell them it will be a formative assessment? YES – NO
12. Do you explain how it will be a formative assessment? YES – NO
13. Is formative work marked? YES – NO
14. Is formative work graded? YES – NO
15. Is formative work related to summative work? YES – NO
16. If yes, how is it related?
17. Do your students carry out self-assessment? YES – NO
18. Do you present self-assessment as a formative exercise? YES – NO
19. Do you present self-assessment as a summative exercise? YES – NO
20. Does self-assessment use both summative and formative assessment? YES – NO
21. Is theory important to us as teachers? YES – NO
22. Summative assessment can be used for end of course grades. YES – NO
23. Formative assessment can be used for end of course grades. YES – NO
24. Summative assessment can be used for mid course grades. YES – NO
25. Formative assessment can be used for mid course grades. YES – NO
26. Summative – assesses product. YES – NO
27. Summative – assesses process. YES – NO
28. Formative – assesses product. YES – NO
29. Formative – assesses process. YES – NO
30. Summative – assesses for validation. YES – NO
31. Summative – assesses for learning. YES – NO
32. Formative – assesses for validation. YES – NO
33. Formative – assesses for learning. YES – NO
34. Summative provides useful feedback. YES – NO
35. Formative provides useful feedback. YES – NO
36. Summative and formative are different processes. YES – NO
37. Summative and formative are similar processes. YES – NO
38. I am SURE – NOT SURE how summative and formative relate to each other.
39. Students understand summative assessment. YES – NO
40. Students understand formative assessment. YES – NO
41. Students focus on summative assessment. YES – NO
42. Students focus on formative assessment. YES – NO
43. Without looking back, give a definition of summative assessment.
44. Without looking back, give a definition of formative assessment.

Thank you very much for your time and brain power.

Notes on the contributors

Maddalena Taras's research has focused on a range of assessment issues: self-assessment – developing an original framework and examining issues of power; institutional discrepancies and contradictions in assessment practices and discourses; constraints from language, culture, and power impacting on assessment perceptions and practices; and critiquing the notion of 'assessment for learning', particularly the theoretical framework.

Mark S. Davies is a biologist with a large portfolio of activities relating to learning and teaching and its management in higher education. His research in education besides assessment concerns formulating strategies for student retention and the use of computer simulations in teaching complex subjects.

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Tables

Table 1. Percentage rough definitions of SA provided that were classified as 'for' or 'of' learning, and including the word 'feedback' (where percentages do not sum to 100 this indicates some respondents did not answer the question or gave an ambiguous answer).

	Ed (1st & 2nd same)	Sc 1st	Sc 2nd	SD 1st	SD 2nd
For learning		10	6	8	
Of learning	80	82	76	92	69
'Feedback'			10	15	15

Table 2. Percentage rough definitions of FA provided that were classified as 'for or 'of' learning, and including the word 'feedback'.

	Ed (1st & 2nd same)	Sc 1st	Sc 2nd	SD 1st	SD 2nd
For learning	82	50	44	85	69
Of learning		38	30		
'Feedback'	28	34		85	69

Table 3. Semantic focus of example of summative assessment task.

	Ed	Sc	SD
'examination'	86	52	54

Table 4. The consistency of classified responses to the repeated questions asking for definitions of SA (questions 1 and 43) and FA (questions 3 and 44). Numbers refer to percentage of responses that were classified according to the scheme in column 1 ('for' learning ('for'), 'of' learning ('of'), both, inconsistent response, and at least one question unanswered). Not all columns sum to 100 owing to rounding errors.

Classified response to question 1 or 3 and 43 or 44	Definitions of SA			Definitions of FA		
	Ed	Sc	SD	Ed	Sc	SD
'of'	94	67	69		24	
'for'		6	8	80	39	62
both		2			6	
inconsistent		22	15		25	38
unanswered	6	4	8	20	6	

Table 5. The consistency of classified responses comparing first definitions given with examples given for both SA and FA. Numbers refer to percentage of responses that were classified according to the scheme in column 1 ('for' learning ('for'), 'of' learning ('of'), both, inconsistent response, and at least one question unanswered). Not all columns sum to 100 owing to rounding errors.

Classified response to question 1 or 3 and 2 or 4	Definition and example of SA			Definition and example of FA		
	Ed	Sc	SD	Ed	Sc	SD
'of'	80	41	69	2	31	
'for'				74	18	46
both					4	
inconsistent		55	31		41	54
unanswered	20	4		24	6	

Table 6. Formative assessment tasks used with students (numbers in first row refer to question numbers).

Response	5. FA tasks used			6. In class			7. For homework			8. FA and SA separate			9. FA and SA conflated		
	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD
Yes	100	94	100	86	92	100	78	62	85	38	48	31	54	38	46
No		6		10	8		20	34	8	46	34	54	38	52	23
Sometimes										10	12	15	6	2	15

Table 7. Information given to students on formative assessment tasks.

Response	11. Tell students task is FA			12. Explain how task is FA			13. Is formative work marked?			14. Is formative work graded?			15. Is formative work related to summative work?		
	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD
Yes	70	78	69	64	74	100	70	66	38	30	48	23	78	70	77
No	30	18	8	36	22		24	32	31	58	48	38	10	18	
Sometimes		2	23				6		31	8	2	38	8	8	23

Table 8. Information on student self-assessment (ssa).

Response	17. Do students do ssa?			18. Do you present ssa as a formative exercise?			19. Do you present ssa as a summative exercise?			20. Does ssa use both SA and FA?		
	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD
Yes	70	56	77	58	46	69	28	20	15	30	34	31
No	28	44	15	36	50	8	60	72	62	66	50	46
Sometimes	2			4		8	4	2	8	2		8

Table 9. Agreed that theory is 'important to us as teachers'.

Ed	Sc	SD
96	90	85

Table 10. Summative and formative assessment can be used for end- or mid-course grades.

Response	22. SA can be used for end-of-course grades			23. FA can be used for end-of-course grades			24. SA can be used for mid-course grades			25. FA can be used for mid-course grades		
	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD
Yes	98	82	100	56	40	31	76	70	69	66	54	38
No	2	16		40	54	69	20	26	23	32	44	53
Sometimes					4			2	8			8

Table 11. Summative and formative assessment assess product and/or process.

Response	26. SA assesses product			27. SA assesses process			28. FA assesses product			29. FA assesses process		
	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD
Yes	90	76	100	58	62	92	70	66	46	86	80	100
No		20		30	32	8	14	28	31	10	16	
Sometimes	6			6			6	2	8	4	2	

Table 12. Summative and formative assessment assess for validation (grading) or for learning.

Response	30. SA assesses for validation			31. SA assesses for learning			32. FA assesses for validation			33. FA assesses for learning		
	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD
Yes	84	62	69	78	78	69	48	52	46	90	90	92
No	4	30		12	18		40	40	31		8	
Sometimes	6		8	6		23	6		8	2		8

Table 13. Summative and formative assessment provide useful feedback.

Response	34. SA provides useful feedback			35. FA provides useful feedback		
	Ed	Sc	SD	Ed	Sc	SD
Yes	82	78	77	96	88	100
No	12	18	8	2	8	
Sometimes	6	2	15	2		

Table 14. Summative and formative assessment are different or similar processes

Response	36. SA and FA are different processes			37. SA and FA are similar processes		
	Ed	Sc	SD	Ed	Sc	SD
Yes	68	50	38	50	64	85
No	22	42	46	30	30	15
Sometimes	6	4	8	12	4	

Table 15. Are you sure how SA and FA relate to each other?

Response			
	Ed	Sc	SD
Yes	80	46	69
No	4	22	15
Did not answer	16	32	15

Table 16. Students understand/focus on summative and formative assessment

Response	39. Students understand SA			40. Students understand FA			41. Students focus on SA			42. Students focus on FA		
	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD	Ed	Sc	SD
Yes	74	72	77	60	50	38	82	76	100	32	28	8
No	10	28	8	26	48	38	12	22		50	64	77
Sometimes	16		15	14	2	20	2	2		14	4	15