

Rethinking assessment: putting psychology to work to build learners' creativity

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In a timely and important article, Lucas (2022) contends that there is an urgent need to reconsider the goals of educational curricula and the ways in which assessment can reflect these goals arguing that the kinds of skills, dispositions, and capabilities that are valued in our society post-education are not adequately or universally developed and assessed within our current school education systems.

Further, rather than take sides in an ongoing debate about the relative importance of education that is focused on knowledge vs skills and/or dispositions, Lucas seeks to link all three arguing that skills are the means by which knowledge is applied and through which dispositions are formed. In so doing, Lucas opens up discussion about the ways in which assessment can be used to evidence the full range of learners' capabilities in a more holistic, integrated, and contextualised manner. In service of this discussion, Lucas provides a wide-ranging palette of assessment approaches that can be drawn upon to evidence these capabilities.

Key to any process of rethinking assessment will be careful consideration of the way in which additional approaches to assessment are implemented. Perhaps one important maxim to bear in mind is that we should seek to 'do no harm'. Certainly, it has been vigorously argued that current forms of assessment, especially high stakes testing, do harm young people, their teachers, and wider society (e.g., Berliner, 2011; House of Commons

Education Committee, 2017), but in our eagerness to reduce these harms we must ensure that we do not introduce others.

This is a place where psychological research and knowledge has much to offer. For instance, Lucas (2022) notes that psychometric tests may be one promising category of approach that could be used to evidence students' capabilities, with further examples of such tests a feature of his second category of 'smart multiple choice tests'. Psychological research has many decades of experience in the development of reliable and valid approaches to the assessment of human characteristics and capabilities that can be brought to bear in this arena. Take, for example, the assessment of creativity, which is frequently regarded as a highly desirable outcome from education (Adobe, 2013; James et al., 2019), is widely valued by employers (e.g., Berman & Korsten, 2014; World Economic Forum, 2020) and yet often argued to be a casualty of high-stakes testing environments (e.g., Berliner, 2011; House of Commons Education Committee, 2017). Whilst often described as a slippery concept, creativity researchers have in fact largely agreed that creative outcomes combine originality with effectiveness (Runco & Jaegar, 2012), with a wide range of further elaborations to, and developments of, this core definition proposed (e.g., Csikszentmihalyi, 1996; Plucker et al., 2004; Simonton, 2012; Walia, 2019). Further, a wide range of approaches to assessing creativity, which reflect the core definitional components of creativity, have been produced (e.g., Barbot & Reiter-Palmon, 2019). Many of these were developed for, or have made their way into, tests used in education contexts, such as the Mission Skills Assessment cited by Lucas (2022). The latter combines three approaches to assessing creativity – the measurement of divergent thinking; self-perceptions of creativity; teacher rating of creativity – that have been widely used in research on creativity. Other work has sought to develop rubrics for the assessment of creativity that apply this research to an education context (e.g., OECD, 2019;

Scoular et al., 2020; Scoular & Heard, 2021; Vincent-Lancrin et al., 2019), providing a means to effectively differentiate levels of creative achievement in school.

Thus, far from being challenging to assess, psychological research provides a strong foundation on which to base the assessment of creativity. What then are the potential harms to be avoided?

Perhaps chief amongst harms to avoid, is the potential for development of a self-fulfilling prophecy (Merton, 1948) whereby, following assessment of creativity, resultant teacher expectations of students, drive student performance to align with those expectations (e.g., Gentrup et al., 2020). Further, students' self-perceptions may become aligned with the results of assessment such that they come to see themselves as more or less creative (e.g., Beghetto, 2006). Research shows that whilst some individuals hold self-perceptions of their creativity that are specific to certain domains, others do indeed have the self-perception that they are generally uncreative or creative (Snyder et al., 2020) and that one's creativity is largely fixed (Warren et al., 2018). Further, research has shown that these kinds of creative self-perceptions are linked to the extent of an individual's engagement with creative opportunities and behaviours such that individuals who perceive themselves to be uncreative may be less inclined to engage with creative activities (e.g., Beghetto, 2006; Shaw et al., 2021).

Whilst any process of assessment and feedback delivered poorly has the potential for harm, the consequences of poor implementation of assessment of wide ranging capabilities such as creativity, resulting in negatively changing self-perceptions, could be especially damaging both to the potential societal goals of more expansive educational curricula and with respect to the individual. For instance, consider that creative self-perceptions may reflect core aspects of an individual's identity that influence broad aspects of their school and out-of-

school life. Emphasising these potentially pervasive effects, research has shown that

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engagement in creative activity is related to general well-being and psychological flourishing (Conner et al., 2018).

However, the picture regarding links between self-perceptions and outcomes is complicated with evidence on academic self-efficacy suggesting that students who underestimate their academic ability, relative to their actual performance, perform better on subsequent tasks (Talsma et al., 2019). In addition, other work suggests that when people are labelled as having talents, strengths, abilities, and positive resources then a self-fulfilling prophecy can be an asset (see pp. 43-72, Magyar-Moe, 2009; see also Poston & Hanson, 2010) pointing the way towards potentially beneficial uses of new forms of assessment, especially formatively.

So, what might be useful to consider when implementing new forms of assessment? One important aspect is to draw on existing research knowledge to decompose global capabilities, such as creativity, into their underlying sub-skills and associated behaviours. For example, a long history of research shows that creative thinking processes can be separated into two over-arching and yoked types of thinking associated with the generation and evaluation of ideas (Beaty et al., 2015; Pringle & Sowden, 2017a, b; Sowden et al., 2015). These thinking processes can themselves be further decomposed into numerous sub-components (e.g., Finke et al., 1992). Similarly, other research has made significant progress at decomposing creativity into sub-habits and behaviours (e.g., Lucas, 2016) including important collaborative behaviours, which reflect that creativity is more than the product of an individual (e.g., Reiter-Palmon, 2017). Crucially, a wide variety of evidence shows that separate elements of creative thinking processes and creative habits and behaviours can be taught (e.g., Ma, 2006; Scott et al., 2004; Tsai, 2014). This is where Lucas's (2022) suggestions around another category of assessment, 'micro-credentialing', become especially

valuable. Somewhat analogous to using micro-credentials, the focus of assessment and

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feedback can become recognising and rewarding progress in specific sub-components of creativity. For instance, recognising a student's progress at learning to use techniques, such as the six hats or six wise men, to restate problems in multiple ways. The latter can help to promote creativity through consideration of a wider range of possible perspectives and solutions (Vernon & Hocking, 2014).

Thus, by using psychological research to decompose an overarching capability, such as creativity, into individual skills and behaviours, which can be separately fostered, comes the potential to build positive creative self-perceptions and promote engagement with rather than away from creative activities. Assessment can be used as a source of feedback for a student about their profile of habits and skills. Students can then be helped to address specific areas for improvement by being taught about effective, research-evidence based, tools to further develop these habits and skills, thereby facilitating progress towards the overarching capability. Indeed, this type of meta-cognitive and self-regulation focused approach has been shown to be amongst the most effective at promoting learning (Muijs & Bokhove, 2020).

To close, I would like to reflect on Lucas's (2022) quotation and critique of the National Curriculum when he states that "*the mechanisms by which students move from being told about great thinkers and speakers to developing an appreciation of creativity is spectacularly absent in the document.*" To this we might add that by drawing on psychological research, not only can we start to envisage how rethinking assessment can be used to help students appreciate creativity in others but also to become more creatively adept themselves.

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