Can Embedding Authentic Assessment into the University Curriculum Enhance the Employability of Business School Students?

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ABSTRACT

The purpose of this paper is to explore whether embedding authentic assessment into the university curriculum can enhance the employability of business school students. Three research questions are addressed: (1) What is the rationale for authentic assessment in the curriculum?, (2) What are the opportunities for authentic assessment to enhance the employability of students?, and (3) What are the challenges of embedding authentic assessment into the university curriculum? The findings indicate that authentic assessment has the potential to increase the employability of students graduating from university business schools. The opportunity to develop human capital, collaborate with fellow students, and solve real-world problems can help students to develop and signal their employability to prospective employers. However, lecturers and administrative staff require additional time to plan and deliver modules using this form of assessment. Students also need to be convinced of the benefits of the additional time investment if the module is not a compulsory component of their degree course. Our paper proposes that authentic assessment should be utilised to a greater extent by university business schools. The benefits of such an approach can transcend students, graduates, universities, organisations, and wider society. Directions for future research are also discussed to maximise the benefits of authentic assessment and seek to reduce the barriers to embedding authentic assessment in the curriculum.

INTRODUCTION

The neoliberalisation of higher education positions the student as the consumer and education as a commodity whereby market transactions shape the relationship between students and universities (Mintz, 2021). The COVID-19 pandemic as a global chance event has exacerbated competition for graduate employment as graduates from different cohorts contest against each other for employment opportunities (Donald *et al.*, 2021). Moreover, employers often criticise the quality of graduates entering the labour market claiming that graduates cannot plan or think strategically, cope with uncertainty, or work under pressure (James and Casidy, 2018). This evidences a gap between the teaching and assessment that occurs in educational settings with the needs of organisations for graduates to operate in the workplace (Gulikers *et al.*, 2006). Additionally, whilst the perceived benefits of participation in higher education continue to outweigh the perceived costs, the gap is narrowing due to increasing tuition fees coupled with a reduction in graduate employment opportunities (Donald *et al.*, 2018).

Higher education is witnessing a paradigm shift from objective, standardised tests of knowledge, requiring low-level cognitive skills (Koh *et al.*, 2012), towards a more complex assessment of knowledge and higher-order skills via authentic assessment (Villarroel *et al.*, 2018). The term authentic assessment is defined by James and Casidy (2018, p.1) as

> *Tasks that measure and test the skills and practice that they will need in their future careers – tasks that mirror professional practice and test more than just rote memorisation.*

Outstanding teachers use assessment as a learning opportunity, not just to rate the efforts of their students, but to evaluate the ability of an individual to put knowledge into practice (Thurab-Nkhosi *et al.*, 2018). Contemporary notions of student learning in higher education reflect a synthesis of ideas from constructivist, socio-cognitive, and situated perspectives, whereby the learning occurs via the synthesis of knowledge which is constructed in the process

of interaction with a social environment (Hawe and Dixon, 2017). The practice of authentic assessment is well-established in some fields, for instance, nursing or apprenticeship tracks as examples of vocational education (Gulikers *et al.*, 2006). However, whilst authentic assessment has begun to emerge in the curriculum of business schools, it remains in an embryonic state. Maxwell and Broadbridge (2017) call on universities to do more to promote styles of learning and assessment that can bridge the gap between the expectations of students and graduate employers. Yet, authentic assessment of university-based learning in business schools has proved to be more of a challenge to implement (Villarroel *et al.*, 2018).

In response, the purpose of this paper is to explore whether embedding authentic assessment into the university curriculum can enhance the employability of business school students. Three Research Questions (RQs) are addressed: (RQ1) What is the rationale for authentic assessment in the curriculum?, (RQ2) What are the opportunities for authentic assessment to enhance the employability of students?, and (RQ3) What are the challenges of embedding authentic assessment into the university curriculum? The theoretical contribution comes from advancing understanding of authentic assessment beyond vocational education settings to optimise the curriculum of business-related degree subjects. The practical contribution comes from offering opportunities to enhance the employability of business school students for the benefit of students, graduates, universities, organisations, and wider society.

The paper is structured as follows. A brief discussion of the employability agenda, human capital, and signalling of employability set the context. Next, the rationale for authentic assessment in the curriculum is presented. Subsequently, the opportunities for authentic assessment to enhance student employability and the challenges of embedding authentic assessment into the curriculum are explored. The paper concludes with a discussion, implications, and presentation of a future research agenda.

THE EMPLOYABILITY AGENDA

The Teaching Excellence and Student Outcomes Framework (TEF) enables participating universities to achieve a gold, silver, bronze, or a provisional award by assessing

> *Excellence in teaching… and how each higher education provider ensures excellent outcomes from their students in terms of graduate-level employment or further study.*

> (Office for Students, 2021, Online)

The TEF positions employability as a constituent part of good teaching rather than as a peripheral activity provided by university careers services. The TEF sees universities compete with each other to attract prospective students by evidencing opportunities for career success and value for money regarding their investment in degree studies. This is crucial since the perceived gap between the benefits and costs is narrowing due to tuition fees of up to £27,000 for a 3-year undergraduate degree plus additional living expenses (Donald *et al.*, 2018). The challenge to universities is compounded by government legislation promoting apprenticeships and degree apprenticeships as alternative routes for school leavers whereby they can gain work experience alongside their studies (Degree Apprenticeships, 2015).

Unfortunately, the terminology of employability and employment is often used interchangeably despite having different meanings (Holmes, 2013; Jackson, 2015). The term employability refers to "*the potential a graduate has for obtaining and succeeding in graduate-level positions*" (Knight and Yorke, 2004, p.4). The term employment is a snapshot in time measure of whether an individual is in work, but this fails to account for structural factors whereby a graduate is employable without being employed (Vanhercke *et al.*, 2014). Universities are thus tasked with producing employable graduates whilst partnering with graduate employers to secure employment opportunities for their graduates. Furthermore, league table rankings tend to lead to a degree of homogeneity or isomorphism whereby normalisation of operations is viewed as necessary for survival and sustainability (DiMaggio

and Powell, 1983). Yet, the COVID-19 pandemic has increased the appetite for collaboration and innovation as pre-existing norms are challenged (Donald *et al.*, 2021).

In this paper, the focus is on the use, by academics operating within higher education institutions, of authentic assessment within the course curriculum as a vehicle to enhance the employability of their students. Our focus now moves to the theoretical framework of human capital theory and signalling theory before discussing the rationale for authentic assessment within the curriculum.

HUMAN CAPITAL AND SIGNALLING EMPLOYABILITY

Human capital theory emerged in the 1960s (Schultz, 1961; Becker, 1964) and was then applied to the field of higher education consisting of social capital, cultural capital, and scholastic capital (Useem and Karabel, 1986). The notion of the need for achievement (Cook *et al.*, 1981) and inner-value capital (Baruch *et al.*, 2005), were subsequently collated under the term psychological capital (Luthans *et al.*, 2004; Luthans *et al.*, 2015). Additionally, the concept of market capital (Baruch *et al.*, 2005) and skills was added to human capital in recognition of their alignment with employability (Barrie, 2007; Cranmer, 2006; Knight and Yorke, 2004). Therefore, human capital in the context of undergraduate students is defined as consisting of social capital, cultural capital, psychological capital, scholastic capital, market-value capital, and skills (Donald *et al.*, 2019). Universities seek to increase the levels of human capital in their students to produce graduates capable of increased levels of job performance and productivity (Baruch *et al.*, 2005). Subsequently, organisations strategically acquire human capital via the employment of graduates as a means of organisational sustainability via competitive advantage, productivity, and profitability (Donald *et al.*, 2020).

However, graduates need to be able to convey their human capital to potential employers, particularly as suggestions of grade inflation reduce the value of the degree

classification as a differentiator of talent (Bachan, 2017; Chen *et al.*, 2017). The graduate premium can therefore be attributed to a combination of human capital and signalling (Rospigliosi *et al.*, 2014). Signalling theory addresses information asymmetry between two parties termed the signaller and the receiver (Spence, 1973). In the context of graduate recruitment, a graduate signals their employability to a prospective employer via the application and selection process (Kalfa and Taksa, 2015). The prospective employer decodes the signals provided by candidates to identify talent and inform hiring decisions (Anderson and Tomlinson, 2021).

We believe that authentic assessment offers universities a way to increase human capital in their students and help graduates to signal their employability to secure graduate employment. The curriculum also offers an opportunity to help students to develop their employability proactively through their university studies rather than as a reactive necessity in the final semester of study or following graduation (Graduates of Global Distinction, 2020). This paper now sets out the rationale for authentic assessment before exploring the opportunities and challenges of embedding authentic assessment within the university curriculum.

RATIONALE FOR AUTHENTIC ASSESSMENT IN THE CURRICULUM

RQ1: What is the rationale for authentic assessment in the curriculum?

Current approaches to assessment within the business school curriculum will usually involve a mix of formative and summative assessments. Formative assessment involves either informal or practice assessments that take place throughout the course and do not contribute to the final module mark (Yorke, 2003). In contrast, summative assessment occurs when a formal assessment does contribute to the final module mark to measure and certify learning outcomes (Earl, 2003). However, there are concerns that these assessment approaches lack opportunities

for students to apply theoretical constructs (Mooney and Harkison, 2018) and engage in transformative learning (James and Casidy, 2018). In particular, employers continue to raise concerns over the quality of graduates and this problem is likely to be exacerbated by suggested grade inflation and COVID-19 related impacts on assessment (Donald *et al.*, 2021; Hinchliffe and Jolly, 2011).

One approach to address such concerns is authentic assessment, which is used extensively in vocational-based degree programmes (Gulikers *et al.*, 2006). However, its application in the context of the curriculum of business schools is not yet sufficiently developed (Maxwell and Broadbridge, 2017). As previously mentioned, James and Casidy (2018, p.1) define authentic assessment as

> *Tasks that measure and test the skills and practice that they will need in their future careers – tasks that mirror professional practice and test more than just rote memorisation.*

This definition acknowledges the performance of authentic tasks (Mueller, 2005), and emphasises the practical application of tasks within a real-world setting (Fook and Sidhu, 2010). Moreover, authentic assessment has the potential to enhance instructional practices and fill gaps in the curriculum resulting in increased student performance (Dunn and Mulvenon, 2009).

Five criteria to assess the authentic intellectual quality of assessment tasks include depth of knowledge, knowledge criticism, knowledge manipulation, sustained writing, and connections to the real world (Koh *et al.*, 2012). Depth of knowledge refers to the use of subject-specific skills, tools, and methods to understand how subject matter is organised and structured to identify interconnections with other areas of knowledge. Knowledge criticism requires students to judge the value, credibility, and soundness of sources of information to foster critical literacy. Knowledge manipulation is the organisation, interpretation, analysis, synthesis, or evaluation of information to facilitate higher-order thinking and reasoning skills. Sustained

writing elaborates on understanding, explanations, arguments, and conclusions and the ability to articulate these in prose form. Finally, connections to the real-world focus on cultivating skills that are not only useful in the classroom but also in a workplace setting and to wider society.

When addressing these criteria there is an opportunity to counteract the marketisation of higher education via a focus on the quality of assessment. This view is supported by Villarroeal *et al*. (2018) through the identification of three dimensions of authentic learning – realism, cognitive challenge, and evaluative judgement. Realism is related to, for instance, being contextualised to everyday life, relevance beyond the classroom, and performing similar tasks to real-world settings. Realism can be evident in case studies or exams where these act as a proxy for real life. Other forms of authentic assessment can include inquiry-based reports, oral presentations, role-playing, and situational judgement tests (James and Casidy, 2018). Cognitive challenge relates to higher-order thinking as demonstrated in Bloom's taxonomy which was extended further from the early 2000s (Krathwohl, 2002; Krathwohl and Anderson, 2010) and incorporates aspects of problem-solving, linking concepts, drawing sound conclusions, and creation of new knowledge. Moreover, constructing knowledge through engaging in higher-order retrieval practise is more beneficial than via fact-based retrieval practice (Agarwal, 2019). Finally, evaluative judgement acknowledges that authentic assessment is a subjective and a relative concept, which is only authentic within a particular situation, place, or profession.

A key rationale for embedding authentic assessment into the curriculum of business schools is that it comprises assessment tasks that mirror professional practice rather than testing rote memorisation (Scott and Unsworth, 2018). This exposure helps students to develop professionally relevant skills to navigate uncertainty and adapt to an evolving workplace (Thurab-Nkhosi *et al.*, 2018). This supports the view of Gulikers *et al.* (2006) that increasing

authenticity in assessment practices can enhance student learning and prepare students better for entry into the labour market. The learning via authentic assessment is thus contextualised and focuses on the use of skills and demonstration of competencies, knowledge, and attitudes that are applied in professional life when handling problem situations (Eddy and Lawrence, 2013; Villarroel *et al.*, 2018).

Authentic assessment also provides the opportunity for students to acquire human capital, enhance employability, and have the confidence to signal this employability to potential employers (Anderson and Tomlinson, 2021; Donald *et al.*, 2019). This is because it focuses on deep learning rather than on surface-level learning (Gulikers *et al.*, 2008). The inquiry-based approach stimulates self-directed learning and encourages a lifelong learning mentality (Hume and Coll, 2010; Koh *et al.*, 2012) as a means for career sustainability (Donald *et al.*, 2020). The opportunity for students to challenge pre-existing assumptions via authentic assessment empowers them to establish themselves in the world and to be reflexive about their own way of doing and being (Vu and Dall'Alba, 2014). Furthermore, authentic assessment has been shown to enhance reflection, communication, and collaboration (Scott and Unsworth, 2018). It is also favoured by career-oriented students (James and Casidy, 2018), suggesting that authentic assessment may offer an opportunity to address calls in the vocational behaviour literature for innovative ways to engage students with careers support (Donald *et al.*, 2018).

The focus of this paper now shifts to examining the opportunities for the use of authentic assessment in business schools to enhance student employability.

OPPORTUNITIES FOR AUTHENTIC ASSESSMENT TO ENHANCE STUDENT EMPLOYABILITY

RQ2: What are the opportunities for authentic assessment to enhance the employability of students?

Authentic assessment develops students' higher order thinking and deep learning skills (Guliker *et al.*, 2008), aiding knowledge construction, complex thinking, elaborated communication, collaboration, and problem-solving in authentic contexts (Koh *et al.*, 2012). The increased depth of learning also provides opportunities for autonomy, commitment, motivation, self-regulation, metacognition, and self-reflection (Villarroel *et al.*, 2018). Authentic assessment enables students to develop these skills and attributes within a safe environment (Sutherland and Markauskaite, 2012) and captures the true ability of students regarding what they know and what they can do (Koh *et al.*, 2012). Moreover, the diversity of students within business schools provides an excellent socio-cultural opportunity to learn from peers who may have different and creative approaches to problem-solving (Bohemia and Davison, 2012). This can increase confidence in students in dealing with less predictable assignments and subsequently prepare them for navigating complexity in the world of work (Mooney and Harkinson, 2018). Additionally, authentic assessment can enhance the employability of students by developing human capital through the construction of networks, exposure to different cultures, psychological development, and the acquisition of skills and attributes (Donald *et al.*, 2019).

Authentic assessment also has the potential to enrich the classroom experience for students and lecturers. Under authentic assessment conditions, learners are engaged and more in control of their own learning. This can energise the learning process and enhance motivation in recognition of the value of assessment to their future professional practice (Gulikers *et al.*, 2008). The benefits to lecturers of developing networks with industry contacts and teaching in an environment with more engaged students can enrich the lives of lecturers and these benefits

transcend to their students (Koh *et al.*, 2012). For example, industry contacts may make lecturers aware of job opportunities for their students. Lecturers may make their industry contacts aware of students whom they feel would be assets to the organisation. Employer involvement in degree course design and assessment has also been shown to have positive effects on graduates' outcomes (Cranmer, 2006). Authentic assessment thus offers the opportunity for lifelong learning and employability which are antecedents of a sustainable career (Donald *et al.*, 2020). Furthermore, the improved confidence in students can subsequently drive student satisfaction scores reflecting positively on the lecturer and the wider university (Thurab-Nkhosi *et al.*, 2018). Authentic assessment also develops human capital in students, which is associated with increased levels of perceived employability – whereby the student believes themselves to be more employable – leading to enhanced levels of self-belief and self-efficacy (Donald *et al.*, 2019).

The opportunity to work on real-world problems also provides students with examples on which to draw during their application and assessment for graduate employment. The graduate as the signaller can draw on an array of evidence to signal to the organisation as the receiver of the signal that they are capable of performing the specific role (Anderson and Tomlinson, 2021). This can enable graduates to overcome employer concerns surrounding a lack of industry experience since their degree studies have replicated such environments (Jackson, 2015). The need to signal employability is likely to increase as the perception of grade inflation within higher education reduces the effectiveness of degree classifications as a differentiator of ability within graduates (Bachan, 2017). The COVID-19 pandemic has added to this challenge since A-level grades to determine entry into universities had to be determined based on teacher assessment rather than exam conditions leading to record numbers of students achieving top grades (Kippin and Cairney, 2021). Moreover, employers are experiencing an increased number of applications per job due to the rescinding of contracts of employment in

the last graduate recruitment cycle (Donald *et al.*, 2021). The concern is that diversity outcomes are negatively impacted as the role of social and cultural capital plays a greater role in differentiating candidates (Holt-White and Montacute, 2020). This highlights the opportunities for authentic assessment since it provides a way for students to acquire these types of human capital and to have the confidence to signal these to potential employers (Anderson and Tomlinson, 2021). These outcomes will also be crucial for the survival of universities when competing with apprenticeship degrees whereby students can earn while they learn (Degree Apprenticeships, 2015).

CHALLENGES OF EMBEDDING AUTHENTIC ASSESSMENT
INTO THE CURRICULUM

RQ3: What are the challenges of embedding authentic assessment into the university curriculum?

Unfortunately, academics face several challenges when seeking to embed authentic assessment into the business school curriculum. Aziz *et al.* (2020) state that one such challenge is the lack of training and lack of support from school administration groups. The concern is that authentic assessment is not always assessing what an academic is seeking to assess (Hathcoat *et al.*, 2016). For example, if the assessment focuses heavily on a written report then this can end up measuring writing skills rather than the application of knowledge. Hathcoat *et al.* (2016) found that 25% of the difference in critical thinking scores within authentic assessment was actually related to differences in writing style. Villarroel *et al*. (2018) offer a four-step process to guide authentic assessment focusing on workplace context, design of assessment, judgement, and feedback. Their model captures the realism, contextualisation, and problematisation in assessing curricular content, linking knowledge with life and work. However, authentic assessment requires a move away from a teaching paradigm involving covering material and

end-of-course assessments that are static to a learning paradigm focusing on learner-centric experiences and active learning approaches (Eddy and Lawrence, 2013). This requires academics to be supported in moving away from traditional norms and seeking innovative ways to embed authentic assessment into the curriculum. Poorly designed authentic assessment has the potential to do more harm than good since it can be counterproductive to learning (Gulikers, *et al.*, 2006). In particular, there should be constructive alignment between the curriculum and assessment methods with skills and wider human capital development for application in a real-world work environment (James and Casidy, 2018). Yet, authentic assessment without some degree of standardisation across business schools and institutions could result in a second dystopian condition within education where wrong conclusions could be drawn from aggregate scores from an institution owing to lack of interchangeability in tasks, occasions, and students (Hathcoat *et al.*, 2016). One opportunity is to integrate traditional and authentic forms of assessment into the curriculum (Villarroel *et al.*, 2018).

Another challenge is the overwhelming level of documentation and the burden of teaching hours that can often be associated with authentic assessment (Aziz *et al.*, 2020; Bould and Molley, 2013). Changing the forms of assessment requires time, energy, and intellectual resources (Mooney and Harkinson, 2018; Villarroel *et al.*, 2018). Nevertheless, MacLean (2016) suggests that the challenges from an increased workload can be offset by the increased personal reward from the high-quality work that students produce. However, there can be resistance from academics particularly if they feel that increased teaching hours are limiting their opportunities to conduct academic research. This highlights the need for buy-in from management, academics, and business school administrators if authentic assessment is to be implemented in a sustainable way (Eddy and Lawrence, 2013).

One of the most significant challenges of embedding authentic assessment into the curriculum is the impact on student satisfaction survey results. The rise of student power has

intensified in the Millennial Generation of students graduating after 2000 (Maxwell and Broadbridge, 2017) and Generation Z students born after 2000 (Ozkan and Solmaz, 2015). This generation has received high levels of positive affirmation which has been linked with increased measures of self-entitlement and narcissism (Twenge and Foster, 2010). There are concerns that accommodations made by universities to achieve high student satisfaction scores have led to grade inflation since higher results often lead to higher reported levels of satisfaction (Stroebe, 2016). Furthermore, authentic assessment requires buy-in from students to engage and embrace with the approach making it a riskier teaching style in the context of student feedback (Thurab-Nkhosi *et al.*, 2018; Vu and Dall'alba, 2014). Authentic assessment can be viewed by students as more time-consuming than other forms of summative assessment and they may opt to avoid these modules, where permitted, due to anxiety concerning time pressures (Fook and Sidhu, 2010). This is compounded by students often not realising the benefit of specific modules until they enter the labour market (Gibbons *et al.*, 2015). This requires business schools to highlight the benefits of authentic assessment to engage students in the process and to enhance lifelong learning and employability as antecedents of career sustainability (Donald *et al.*, 2020).

Additionally, authentic assessment is a subjective concept and academics often perceive a greater level of authenticity in their teaching and assessment than their students do (Gulikers *et al.*, 2006). A concern reported by students is that the assessments are too generic and not sufficiently aligned with personal aspirations (Gulikers *et al.*, 2008). Students also have concerns around the use of peer assessment due to fears of being wrong which can affect their sense of self-worth and confidence (Hawe and Dixon, 2017). However, as students progress through their university degree their views of authentic assessment tend to improve although more experienced students may still be critical of authentic assessment approaches if they feel they have not developed new skills or attributes (Gulikers *et al.*, 2006). Universities must,

therefore, balance the benefits of authentic assessment with the potential risks to student satisfaction survey scores, university league table rankings, and the attraction of future students and income for the university.

DISCUSSION AND IMPLICATIONS

Our paper has framed the rationale for authentic assessment in the curriculum (RQ1), highlighted the opportunities for authentic assessment to enhance the employability of students (RQ2), and raised awareness of the challenges of embedding authentic assessment into the university curriculum (RQ3). This approach brings rigour to authentic assessment as an approach within HEIs and pragmatically highlights opportunities and risks to enable educators to make informed decisions when designing their curriculums.

Practically, we believe that students, educators, career advisors, universities, and employers can all benefit from authentic assessment. Students can apply theoretical constructs (Mooney and Harkison, 2018), engage in transformative learning (James and Casidy, 2018), and develop new ways to signal their employability to potential employers via the acquisition of human capital (Anderson and Tomlinson, 2021; Donald *et al.*, 2019). Educators can develop their networks with industry, improve engagement with their students, and feel a sense of enrichment from their work (Koh *et al.*, 2012). Career advisors benefit since authentic assessment focuses on the development of student employability offering ways to overcome challenges highlighted in the vocational behaviour literature regarding engaging students in careers support initiatives (Donald *et al.*, 2018). These benefits transcend to the university level via increased league table rankings and TEF scores which can subsequently be used to attract prospective students and associated revenue streams. The partnerships with organisations and professional bodies as part of authentic assessment can also be used to highlight the opportunities for prospective students. Such opportunities include gaining real-world

experience as part of the degree and exposure to innovative and collaborative teaching methods. These lead to enhanced employability outcomes and the ability for graduates to navigate their way in a volatile and rapidly evolving labour market. Moreover, we believe that authentic assessment can address the damage imposed by suggested grade inflation (Bachan, 2016; Stoebe, 2017), which is likely to have been exacerbated due to the impacts of the COVID-19 pandemic (Bhopal and Myers, 2020). Employers can thus gain a tangible benefit from participation and support in the authentic assessment process by helping to shape graduates to meet the current and future needs of the industry (Hinchliffe and Jolly, 2011). Employers can also gain advanced access to students during their degree studies leading to the development of early careers talent pipelines that have been shown to offer a sustainable competitive advantage for organisations (Donald *et al.*, 2020).

Yet, a pragmatic approach needs to be taken by all stakeholders when implementing authentic assessment. For example, universities will need to allocate more time for lecturers to work on curriculum development and to deliver their course content (Fook and Sidhu, 2010). Increased investment in administration activities may be necessary, although the involvement of career advisors could alleviate some of these pressures. Crucially, universities need to acknowledge that student satisfaction scores may initially drop while lecturers and students undertake a shift to authentic assessment. Universities should support their staff and reward attempts at embedding authentic assessment into the curriculum, particularly in cases where staff with a history of strong student feedback scores have slight dips in scores for one or two academic years. This captures the need for investment in training lecturers to feel confident using authentic assessment, and to revise performance management criteria to align with personnel development and curriculum development objectives (Aziz *et al.*, 2020). More generally, there needs to be an ongoing conversation around how the TEF is measured, what is

measured, and how the weightings are decided for each measure so that innovation is not stifled as this would be detrimental to all stakeholders and wider society.

FUTURE RESEARCH AGENDA

The limitation of this study is the lack of empirical evidence of the benefit of authentic assessment. Future research could provide a cross-sectional or longitudinal sample of graduates that have taken part in authentic assessment during their university degrees. Studies involving graduates that have been in graduate roles for a significant period of time (e.g., five years) will provide a compelling answer to the efficacy of embedding authentic assessment into the curriculum, and to our knowledge has not yet been investigated. The views of other stakeholders such as line managers or human resource managers of early careers talent in organisations could also be valuable to determine industry satisfaction levels with graduate performance.

Additionally, students need to have experiences within the university curriculum that prepare them to navigate global level threats such as climate change which are likely to bring significant disruption to global economies. The future of work is also evolving via technological advances and Industry 4.0 which have been accelerated by the COVID-19 pandemic (Donald *et al.*, 2021). This suggests that it has never been more important for academia to engage with industry to ensure that the graduate workforce of tomorrow is prepared for the challenges ahead and that universities remain relevant in this fast-changing world. Particularly given that industry is often ahead of academia when it comes to pragmatic changes in the workplace.

We also believe that education has a powerful role to play in developing a deep learning culture within students during their university studies. This aligns with the views of Eddy and Lawrence (2013) who advocate for a shift from an instruction-led paradigm to a learning paradigm in the university curriculum. An immersive experience in authentic assessment may promote higher-order learning outcomes of Bloom's taxonomy (i.e., evaluating and creating)

(Krathwohl, 2002), which can serve as a symbiotic relationship between the student, the employer, and the university. Future research in the area of authentic assessment in the university curriculum thus has practical implications as the solutions to the challenges the economy faces will not be readily solved by existing solutions. Increasing critical evaluative skills in students and enabling them to synthesise and create new knowledge will ultimately benefit the students themselves, industry, and wider society.

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