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Exploring Enablers and Barriers to Educator Engagement in Teaching Innovation

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Abstract

This paper explores the literature related to educator engagement in teaching, learning, assessment and feedback innovation (further referred to here as ‘teaching innovation’) in higher education institutions, describing the main enablers and barriers to innovation. These include consideration of formal and informal learning opportunities for educators, the role of management and leadership, as well as recognition and reward systems, teaching-research conflict, workload and time demands, and policies and procedures. These are examined within the Job Demands-Resources (JD-R) model as job resources and job demands to facilitate understanding of how these may influence educator engagement in teaching innovation in interaction with each other, as well as the educator’s personal resources. Literature-informed recommendations are also made on how higher education institutions can create an organisational climate conducive to educator engagement in teaching innovation.

Keywords: teaching innovation; engagement; job demands; job resources

Introduction

The IMPACT project at the Technological University (TU) Dublin centred on the development of strategically aligned, sustainable processes and infrastructure to maximise the impact of TU Dublin's teaching and learning practices on the student and staff experience. We led the 'Integrate' work package, undertaking research into the university's current teaching and learning strengths, while identifying areas for future development in alignment with the TU Dublin's new Education Model Principles. This work also included researching funding recipient experiences of developing innovative teaching and learning practices within the university, as well as showcasing these projects. Our involvement in the IMPACT project led to us engaging with wider research into enablers and barriers to educator engagement with innovative teaching practices in higher education institutions (HEIs). It is hoped in the future to develop this research further by exploring the lived experiences of educators engaging in innovative teaching, learning and assessment practices in HEIs.

Educator engagement in teaching innovation is imperative to facilitate the ongoing advancement of academic programmes in alignment with institutional, national and international higher education (HE) policies to foster student engagement, while developing creative and innovative skills applicable to knowledge economies (Jaskyte *et al.*, 2009; Smith, 2011; Zhu *et al.*, 2013). 'Teaching innovation' is used here to be inclusive and representative of teaching, learning, assessment and feedback innovation in an HEI.

University educators are therefore under increasing pressure to design, develop and engage in innovative teaching practices to promote optimal student learning environments and to equip students with the knowledge and skills needed for their post-graduation workplaces (Cao *et al.*, 2020; Walder, 2017). The literature on teaching innovation in universities

favours pedagogical innovation processes, with a lesser emphasis on the organisational cultural features that influence educator innovation and creativity (Winks *et al.*, 2020).

These organisational characteristics that may either support or impede educators in engaging in innovative teaching practices are explored here within the Job Demands-Resources (JD-R) framework of employee engagement and motivation (Bakker & Demerouti, 2007; Demerouti *et al.*, 2001). The aims of this paper are as follows:

- First, it aims to use the JD-R framework to promote understanding of how workplace features and characteristics interact with each other and the individual educator to create an organisational climate conducive to educator engagement and motivation with respect to adopting innovative teaching behaviours.
- Second, it serves to identify potential enablers and barriers to educator engagement in teaching innovation as presented in the research.
- Last, we provide literature-informed recommendations on how a supportive organisational environment can be created to enhance enablers and ameliorate barriers to educator engagement in innovative teaching practices.

This paper commences with a description of what ‘innovation’ is in higher education, as well as the role of educators in fostering such innovation. This is followed by a description of the JD-R model as a theoretical framework for the exploration of enablers and barriers to teaching innovation in an HEI environment. The characteristics strongly influencing innovation, as identified in the literature, are then discussed as possible enablers or barriers to teaching innovation, framed within the JD-R model. Lastly, a summary of recommendations for promoting teaching innovation within HEIs is given.

Educator innovation in HEIs

‘Innovation’ and ‘change’ are often used in an interchangeable manner in HE (Smith, 2011, 2012), with educators being the “agents of innovation and change” (Bennett *et al.*, 2018:1015). Gilbert *et al.* (2021) adopt a description of innovative pedagogies as being planned and intentional, ‘new’ compared to what has been done before and created with the intention of improving student learning and achievement. This is consistent with Looney’s (2009) suggestion that innovative teaching approaches should be student-centred and constructivist, encouraging the development of cross-curricular thinking, knowledge synthesis and reasoning to promote a high-quality education experience for students. Gilbert *et al.* (2021:126) further suggest that we consider “pedagogical innovation as a process rather than an outcome and innovative teachers as people who engage in that process”. Educators undertaking development and maintenance of pedagogical innovation on a sustainable basis are strongly influenced by the extent to which the HEI supports such activities (Gilbert *et al.*, 2021). HEI’s thus need an organisational climate that encourages educator attempts to improve teaching and learning (Hannan, 2005). The JD-R model, framing this exploration of enablers and barriers to teaching innovation in HEI environments, is described next.

Job demands resources (JD-R) model

This model is a widely recognised theoretical framework in organisational behaviour literature (e.g. Bakker, 2017; Carlson *et al.*, 2017). It is highly flexible and has been used to explain and explore the relationship between job characteristics, the organisational environment and employee well-being, including engagement and motivation, across a wide range of occupational and cultural settings (Cao *et al.*, 2020; Van den Broeck *et al.*, 2010). While the JD-R framework has been applied to HE settings (Bakker *et al.*, 2005; Cao *et al.*,

2020; Mudrak *et al.*, 2018; Torp *et al.*, 2018; Xu, 2019), only Cao *et al.* (2020) used this framework to investigate negative and positive indicators of innovative teaching, thereby supporting its use in this discussion. We also draw on other literature sources addressing workplace motivation, engagement and innovation, both in HEI's and other types of organisations.

The JD-R model assumes that all work environments have physical, social and organisational characteristics, with the combination of these being unique to each organisation. These characteristics can be categorised as either 'job demands' or 'job resources', which are represented as two separate pathways in this model. The job demands pathway leads to health impairment and burnout, while the job resources pathway promotes motivation, engagement and employee well-being (Bakker & Demerouti, 2007; Bakker, 2015; Demerouti *et al.*, 2001). "Job demands refer to aspects of the work context that cost energy, including work pressure, task complexity and role ambiguity" (Bakker, 2015:724). Manifestations of persistently high job demands may lead to chronic health problems for the individual employee. As these demands tend to undermine performance at work, persistently high demands are likely to lead to reduced job performance, manifesting in negative outcomes for the employer organisation (Bakker & Demerouti, 2007; Bakker *et al.*, 2014; Salanova & Schaufeli, 2008). Job demands may also be mutually reinforcing, thereby exacerbating the negative outcomes, associated with such demands (Cao *et al.*, 2020).

In contrast to job demands, job resources "refer to aspects of the work context that help employees deal with job demands, satisfy basic psychological needs, and achieve organizational goals" (Bakker, 2015:724). Job resources are positive, health-protective features of the work environment that reduce stress and foster engagement, motivation,

personal growth and achievement of job goals (Bakker & Demerouti, 2008; Bakker *et al.*, 2014; Demerouti *et al.*, 2001; Demerouti *et al.*, 2012). Engaged employees feel energised and passionate about their jobs, demonstrating high levels of personal investment in their work to achieve personal and career benefits (Schaufeli *et al.*, 2006). This then leads to improved overall organisational performance (Bakker *et al.*, 2014; Salanova & Schaufeli, 2008). Cao *et al.*'s (2020) findings show that this also holds true for HEI environments. Sufficient job resources are likely to create a positive work environment, promoting employee health, engagement and motivation (Demerouti *et al.*, 2012), as well as fostering creativity and innovation in the workplace (Adler & Koch, 2017).

Job demands and job resources may also interact in influencing employee well-being, engagement and motivation (Bakker *et al.*, 2014; Demerouti, 2014; Garrosa *et al.*, 2011; Schaufeli, 2017). This interaction is dependent on the types of job demands and resources, as interactions differ in extent and outcome for different combinations of these job characteristics (Bakker, 2005; Bakker *et al.*, 2014; Crawford *et al.*, 2010). Two specific categories of job demands are recognised in this interaction: 'challenge' and 'hindrance' job demands. Challenge job demands may interact with job resources to promote engagement, motivation and innovation of the employee in the workplace, while hindrance demands may impede workplace engagement and innovation (Adler & Koch, 2017; Crawford *et al.*, 2010; Podsakoff *et al.*, 2007). Employees may draw on high levels of energy, intrinsic motivation and other personal resources to deal with these challenge demands. This effect may be limited as persistently high job demands over a period of time may have a negative impact on employee health that, in turn, may undermine job performance (Bakker, 2015). While challenge job demands may promote engagement and motivation, hindrance demands, described as the negative demands potentially harming personal growth and triggering

negative emotional responses and coping styles, are likely to constrain engagement and motivation (Crawford *et al.*, 2010; Podsakoff *et al.*, 2007). This is particularly true if there are insufficient job resources to overcome the effects of these hindrance demands (Bakker, 2015). This is consistent with the findings of Bakker *et al.*'s (2005) investigation into the interaction between job demands and job resources for HE employees. This study showed that the combination of high demands and low job resources in an academic organisation are highly predictive of employee burnout, exhaustion, and cynicism. This is also in keeping with Demerouti *et al.*'s (2001) assertion that the interaction of high job demands and low job resources will lead to employee exhaustion and disengagement, representative of burnout.

Based on this conceptualisation of job demands and resources within the JD-R model, enablers of educator teaching innovation can be considered as job resources within this framework, with some of the barriers to such innovation presenting as job demands. These enabling job resources facilitate HEI educators to catalyse and maintain innovative teaching practices. This in turn benefits both the educator's well-being and the standard of education that they can deliver, as a positive organisational outcome. Similarly, it is cautioned that barriers to innovation may lead to reduced ability of educators to engage in teaching innovation, possibly being detrimental to the quality of education they can deliver. In common with other organisations, HEIs each have a unique set of demands and resources that need to be considered in organisational strategies to reduce barriers and enhance enablers for staff wanting to, or required to, engage in teaching innovation. Specific enablers and barriers are not identified here, as workplace characteristics that can be identified as job resources and job demands, as well as influencing how they interact, are unique to each HEI. Individual differences in how educators perceive and experience these job resources and demands also need to be considered. For example, the use of technology in teaching

innovation may be perceived as a challenge demand by some educators, making them feel enabled, empowered and motivated in meeting the demands of their work. While other educators may experience the same technology as a hindrance demand, reducing their engagement and motivation regarding teaching innovation. Whether a workplace characteristic is perceived and experienced by an individual educator as a demand or resource is also largely influenced by the relationship between individual demands and other workplace characteristics that may enhance or mitigate such a demand. Each of these demands and resources should not be considered individually within an academic environment, but rather within the context of the overall organisation. The job characteristics and organisational factors that could be considered to catalyse and facilitate teaching innovation (job resources) and those that may inhibit such innovation (job demands) are described next. The influence of personal resources of the educator is also considered.

Social job resources

A number of HEI-relevant social job resources are explored here within the JD-R framework. These include formal and informal peer-to-peer learning opportunities, the role of campus design in facilitating these interactions, and the role of management and leadership in supporting and encouraging educators to be engaged, motivated and innovative in the workplace (Adler & Koch, 2017; Bakker & Demerouti, 2007).

Educator professional development through formal and informal learning

Knowledge and skills development of educators in HEIs is heavily reliant on opportunities to interact with peers in the workplace. Peer interaction allows for the exchange of ideas and provides opportunities to get feedback. Provision of opportunities (formal or informal) for staff to share experiences, ideas and reflections are important in the development of

knowledge and skills, being essential to fostering a climate for teaching innovation in HEIs (Smith, 2012). The importance of both formal and informal learning opportunities for educators is supported by the basic premise of social constructivism, assuming that learning takes place through interaction with others and the environmental context, leading to the construction of knowledge and development of skills through these social exchanges (Luedekke, 1999). This requirement for social interaction in stimulating teaching innovation in academic workplaces is also evidenced by Buss *et al.*'s (2013) findings and Bakker's (2015) assertion that engaged employees are prosocial, in that they want to undertake actions intended to benefit other people and society in general. It is important that the organisational culture of a HEI provides opportunities for social interactions that catalyse and support academic employees in developing creative and innovative behaviours (Anderfuhren-Biget *et al.*, 2010; Cao *et al.*, 2020; Gilbert *et al.*, 2021). Opportunities for development and associated ability to apply a wide variety of acquired skills in the HE workplace may be considered as job resources that can buffer against the effects of high-hindrance job demands, while also boosting the positive impact of challenge job demands (Bakker, 2015). Formally organised educator-interaction opportunities within a HEI, such as workshops, accredited programmes of study, organised meetings of members of communities of practice and mentoring schemes, provide space, opportunity and stimuli to develop and share knowledge fostering teaching innovation (Smith, 2012; Winks *et al.*, 2020; Wolff, 2008). These opportunities for development can also be promoted through accredited and non-accredited learning opportunities, such as outlined by the National Forum for the Enhancement of Teaching and Learning's (2021) advancement of a Professional Development Framework.

Space to learn

While formal learning opportunities present welcome and valuable opportunities and social job resources for educator growth and development, educators often experience it as challenging to find time in their heavy workloads to attend formal learning events. Winks *et al.* (2020) maintain that HEI campus design should facilitate opportunities for incidental meetings and spontaneous interactions that foster informal peer support, while also providing valuable opportunities to exchange ideas. Opportunities for such informal interactions should also be prioritised as being essential for breeding teaching innovation within HEIs. Winks *et al.* (2020) investigated how physical spaces at a UK university can be used to foster peer learning in academic staff, underpinning a culture of innovation and creativity in educational practice. The findings of this study highlight the importance of on-campus opportunities for ‘serendipitous encounters’ in campus spaces such as offices, meeting rooms and communal staff areas. Innovation in HEIs is also generated in conversations, meetings and research that takes place in everyday spaces on HEI campuses. Campus design needs to facilitate this to enable such innovative thinking and practice. When conceptualised within the JD-R framework, the design and availability of such physical spaces on campus is a physical job resource that facilitates the development, availability and sustainability of social job resources, necessary for teaching innovation.

The role of management and leadership

Social resources in the workplace extend beyond providing formal and incidental opportunities for peer-to-peer interactions among academic colleagues. They also encompass the leadership shown by managers in promoting and supporting staff engagement in, and dissemination of, innovative teaching practices (Buss *et al.*, 2013; Hannan, 2005; Smith, 2012). Innovation needs to be supported at management level, fostering a shared

vision of innovation that is “legitimised through institutional discourse” (Smith, 2012:174). Leaders should act as role models for employees by engaging in entrepreneurial activity themselves to stimulate similar mindsets and activity in those that they manage, an idea supported by Demerouti *et al.*'s (2014) suggestion that employees are more likely to adopt proactive behaviours to reduce job demands and enhance job resources when these behaviours are modelled by their supervisors. Drawing on these findings, it is proposed that a potential and strongly influential social job resource in promoting teaching innovation in educators is the example set by academic managers in showing leadership by becoming engaged in the design, development and implementation of teaching innovation themselves, to foster an environment of such innovation within an HEI.

Recognition and reward

High levels of engagement at work are often associated with high levels of discretionary labour, whereby engaged employees are willing to invest a lot of extra time and effort into their work (Bakker, 2015). When educators are motivated by recognition from colleagues, managers and their HEI, they are then more likely to engage in the discretionary behaviour needed for initiating and adopting innovative work practices, as such recognition fulfils their need for affiliation and relatedness, which is central to work motivation (Anderfuhren-Biget *et al.*, 2010; Martins & Nunes, 2016). Human resource practices that emphasise recognition as a reward help to build an organisational culture that stimulates creativity and innovation (Anderfuhren-Biget *et al.*, 2010). It is proposed here that HEI recognition and reward systems be considered social job resources within the JD-R framework, as they meet the criteria of a job resource in that they foster educator engagement and motivation in the workplace (Bakker & Demerouti, 2008; Bakker *et al.*, 2014; Demerouti *et al.*, 2001).

Reward as a job resource is further supported by organisational theory, whereby reward is

recognised as a mediator through which employees are motivated (Martins & Nunes, 2016). Samarawickrema and Stacey (2007) studied the factors affecting the adoption of e-learning and teaching by educators. They found that awards for teaching excellence and funding for innovative learning and teaching projects are examples of rewards and recognition of teaching innovation, serving to incentivise educators to adopt e-learning and teaching.

However, recognition and reward systems should not be conditional on innovative practice that arises only out of discretionary labour, as this is not sustainable for the individual educator over the long-term. An expectation that high levels of energy are required for sustained discretionary inputs to enable innovative educators to be recognised and rewarded for their work represents a job demand. This, coupled with insufficient job resources to buffer the effect of these expectations and demands, will most likely lead to reduced employee motivation, increased chances of employee burnout and reduced individual and organisational innovation outputs (Bakker, 2015). The lack of HEI rewards and incentives for teaching innovations can make engagement in such work less attractive to educators (Martins & Nunes, 2016).

Teaching-research conflict

Traditional social configurations of universities usually support and celebrate research, often at the expense of teaching quality and innovation (Martins & Nunes, 2016). This is reflected in the philosophy of ‘publish or perish’, which is pervasive in modern-day academia (Yeo *et al.*, 2021), often resulting in academics allocating their valuable time instead to activities that are going to result in rewards in the workplace, such as research and publishing (Martins & Nunes, 2016). It is therefore expected that many educators would experience role conflict as they try to balance their roles as educators with their roles as researchers. Role conflict is

a stressor (job demand) in the workplace when often incompatible, incongruent and conflicting role requirements are experienced by an employee while trying to meet demands and expectations of these different roles and different sources of authority (Rizzo *et al.*, 1970). This is supported by the findings of Cao *et al.*'s (2020) study exploring predictors of innovative teaching among university teachers, showing that “university teachers tend to suffer from the conflict of working as both teachers and researchers due to time and energy constraints” (p. 2). The findings of this study also showed a negative relationship between teaching-research conflict and teaching motivation, as educators reported that teaching work reduced their ability to engage in research. Xu (2019) also used the JD-R framework to study role conflict between teaching and research in HE environments, showing that this conflict is likely to align with the health impairment and burnout pathway of the JD-R, leading to exhaustion and depersonalisation of educators. Cao *et al.* (2020) showed that this was exacerbated in the presence of job insecurity. When considered within an HEI environment, Smith (2011) suggests that HEI prioritisation of research over teaching is likely to inhibit pedagogical innovation.

Workload and time demands

Role overload arises in the presence of a lack of time and resources available to support the employee in meeting workplace demands (Örtqvist & Wincent, 2006). HEI management expectations of educator engagement in multiple activities such as teaching, research and administrative functions, can lead to role overload (Bezuidenhout, 2015). Other causes of role overload experienced by educators in an academic environment will also need to be considered, as HEI's address evolving ranges of pressures that may threaten the individual's involvement in teaching innovation (Bennett *et al.*, 2018). Time is a significant barrier to educators adopting innovative work practices in addition to pre-existing heavy workloads

(Smith, 2012). The time demands associated with teaching and learning innovation have also been highlighted by Martins and Nunes (2016), who suggest that e-learning innovation creates a heavier workload due to the time demands associated with increased teaching loads, design of instructional materials and tutoring and support of students. They also suggest that these increased time demands on educators innovating in the e-learning space is largely ignored in HEIs. This concurs with Smith's (2012) view that overload is often exacerbated by the lack of recognition and consideration of the workload and time demands associated with teaching innovation. It is proposed here that such role overload also aligns with 'work pressure', which is recognised as a job demand within the JD-R model (Bakker *et al.*, 2014; Demerouti *et al.*, 2001). An additional time demand was recognised by Adler and Koch (2017), who suggest that assigning unreasonable and unnecessary tasks to employees in the workplace impedes employee learning and goal attainment, while hampering innovation.

Institutional policies and procedures

HEI policies and procedures can either favour teaching innovation, representing a job resource, or impede such innovation, representing a job demand within the JD-R framework. A lack of parity of teaching activities, relative to research and management activities, negatively impacts on teaching practice, leading to a perception that teaching is neither valued nor rewarded (Young, 2006). HEI policies that truly support teaching innovation include such innovation in promotion criteria as a strong indicator of the status of teaching in universities. Such recognition of teaching innovation for career promotion demonstrates university commitment to support and value teaching innovation (Hannan, 2005; Parker, 2008) and could be considered a job resource. In contrast, where teaching innovation does not enjoy parity with other academic activities such as research for recognition and

promotional opportunities, this acts as a disincentive for the individual educator to engage in teaching innovation (Hannan, 2005; Smith, 2012).

Educator positioning and response to institutional and wider policy frameworks may also influence the degree to which teaching innovation is perceived as job demand or job resource by the individual educator. The extent to which academics feel aligned to, and accepting of, institutional policy, highlights the role of individual agency as a potential personal resource within the JD-R model. Prior teaching experience, discipline and epistemic beliefs and pragmatic constraints may also influence the extent to which lecturers engage with teaching innovation (Fanghanel, 2007).

Hannan (2005) proposes that HEI policies that provide restrictive guidelines for teaching and learning, precluding individual initiative, are barriers to teaching innovation.

Excessively bureaucratic and time-consuming procedures for approval, support and resources for teaching innovation add significantly to educator workloads, thereby representing a job demand within the JD-R framework. Smith (2011) cautions that innovations are unlikely to flourish where the institutional culture suppresses creativity by being “overly prescriptive and shaping innovations to fit what is currently fashionable” (p. 436). HEI environments that support pedagogical innovation, creative and innovative risk-taking, including the diffusion of such, are characterised by strong senior management support and institutional strategies that legitimise innovative ways of working (Smith, 2012), providing a high level of job resources for pedagogical innovation.

Personal resources

Bakker and Demerouti (2017) recommend distinguishing job resources from personal resources within the JD-R framework for understanding drivers of workplace engagement, motivation and innovation. Personal resources can include optimism, self-efficacy, self-esteem, resilience, goal-directedness, proactivity and flexibility, and are associated with the individual employee's sense of their ability to control and impact on their work environment (Bakker, 2015; Bakker & Demerouti, 2017; Cao *et al.*, 2020; Schaufeli, 2017; Xanthopoulou *et al.*, 2007). According to Adler and Koch (2017), these personal resources may play either a mediating or moderating role – in part or full – in the relationship between working environment and job characteristics and innovation. Xanthopoulou *et al.* (2007) show that such personal resources do not manage to offset the relationship between job demands and exhaustion, but that these personal resources mediate the relationship between job resources, engagement and exhaustion. Despite this potential positive influence of personal resources within the JD-R framework, these personal resources are not the main drivers of sustained work engagement, motivation and innovation. Job resources foster the development and application of these personal resources in innovative behaviours in the workplace, but only if sufficient job resources are present.

Recommendations for promoting and supporting teaching innovation in higher education

Provision of good working conditions promotes innovation in the workplace (Adler & Koch, 2017). Cao *et al.* (2020) concur with this by recommending that HEIs take measures to promote educators' well-being, motivation and performance at work. As the aforementioned discussion shows, there are a variety of potential job resources ('enablers') and demands ('barriers') that may have a single or interactive influence on workplace

engagement, motivation and innovation. Teaching innovation is multi-faceted, involving the individual educator, HEI policies and management practices and the overall HEI culture, in interaction with each other. A holistic approach is therefore needed to establish an enduring culture of teaching innovation within an HEI. Considered from a JD-R perspective, the recommendations outlined below are made with the intention of highlighting where job demands can be decreased, and job and personal resources increased, to prevent burnout and increase the engagement of innovative educators (Schaufeli, 2017).

- Formal professional development opportunities serve to foster creative and innovative teaching practices in HEIs. These may include workshops, seminars or formal programmes of study (Adler & Koch, 2017).
- Physical spaces, e.g. staff common rooms, for informal meetings with other staff, should be available and well designed to give educators opportunities for incidental meeting with others. This provides scope and space for informal learning and an exchange of ideas to promote innovative thinking essential to the development of teaching innovations (Winks *et al.*, 2020).
- Formal and informal meetings support the establishment of communities of practice, which should be encouraged and supported by HEIs to meet diverse institutional goals (Wolff, 2008).
- Policies and procedures recognising and rewarding teaching innovation on a par with discipline-specific research should be developed and enacted (Gilbert *et al.*, 2021; Hannan, 2005; Smith, 2011). This should include an award scheme recognising teaching excellence to encourage educator involvement in pedagogical innovation (Samarawickrema & Stacey, 2007).

- Funding should be provided to create opportunities for innovative teaching design, development and implementation (Gilbert *et al.*, 2021; Hannan, 2005; Samarawickrema & Stacey, 2007; Smith, 2011, 2012).
- Initiatives should be developed to promote understanding and support, as well as dissemination, of teaching innovation by academic managers at all levels, encouraging them to become champions and role models of teaching innovation within the HEI (Hannan, 2005; Miao *et al.*, 2017; Smith, 2011).
- A system of protected time should be implemented for educators involved in teaching innovation to give them the space and time to develop, implement and evaluate innovative projects (Hannan, 2005; Smith, 2012).
- HEI policies should encourage educational research, as this encourages educators to improve teaching practices, while also gaining the recognition and status associated with research and publication of work (Young, 2006; Walder, 2017).
- HEI management should develop a sustainability plan to ensure that job resources – such as the enablers described earlier – are sufficient on an ongoing basis to support educators in long-term engagement in innovative teaching practices (Smith, 2012). This will also serve to develop and embed a culture of innovative teaching, learning and assessment practice within the HEI.
- Students should be prepared for, and engaged, as partners in the variety and activity associated with innovative teaching and learning environments (Gilbert *et al.*, 2021). It is important to manage and mediate expectations of their learning environments, particularly if these differ from previous learning experiences at school or university.
- Each HEI should have a centre of excellence in teaching and learning that is distinct from other organisational functions, to provide research-informed support and leadership in teaching, learning and assessment. This supports educators in their professional

development to acquire and enhance their knowledge and skills as job resources to stimulate and sustain engagement, motivation and innovation of academic staff (Gosling & Hannan, 2007; Hannan, 2005). Such a centre's role in supporting and sustaining ongoing institution-wide innovation could also extend to the continuous gathering and analysis of data to identify areas of teaching innovation strengths, weaknesses and capacity in HEIs. A tool such as the European Commission and OECD's *HEInnovate* tool could be applied to address this need (see <https://heinnovate.eu/en>).

Conclusion

The drivers for academic staff engagement in teaching innovation should inform organisational policies and supports for the creation of an HEI environment conducive to initiatives for the enhancement of teaching and learning on a sustainable basis, such as is currently being developed through the new TU Dublin Education Model. Nurturing such innovation facilitates a higher quality learning experience for students, which should also be considered within the context of an increasingly competitive national and international HEI environment. The literature discussed here highlights the role and significance of an organisational culture centred on the adoption and ongoing support of a multi-faceted, holistic, approach to optimising the physical and cultural organisational environments that enable educators in adopting and maintaining innovative teaching behaviours.

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