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# Adopting the International Standard 'Becoming a human-centred organization (ISO 27500)' supports a strategic approach to internationalisation.

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# **Adopting the International Standard “Becoming a Human-Centred Organization (ISO 27500)” Supports a Strategic Approach to Internationalization**

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**Human Factors is the study of how humans interact with the (work) systems in which they operate, and therefore the discipline is relevant across higher education. However, it is recognized as a particularly valuable strategy for supporting the development of patient safety competencies, and Helen plays a key role in the National Health Service Education for Scotland’s (NHS Education for Scotland) national Human Factors educational development programme.**

## **Abstract**

Educational development is increasingly focused on quality assurance and enhancement. Individual states/countries have their own mechanisms for assuring the student experience, and this has been accompanied by development of tools (including the UK’s National Student Survey) for capturing student opinion of our efforts. Areas where more work is needed include equity and diversity and it is perhaps time for a fresh approach. In other sectors, International Standards ensure safety, reliability and quality of products and services. Such

standards also represent a stakeholder-negotiated (and therefore shared) understanding of “good quality,” supporting organizations in accessing new markets and permitting fair global trade, an approach relevant to higher education. Recent publication of ISO (The International Organization for Standardization) Standard 27500 (the International Standard describing the principles and rationale behind becoming a human-centred organization) seems timely. Encouraging educational institutions to adopt this Standard may offer a strategy for addressing several issues including internationalization.

## **Introduction**

‘Internationalization’ is a term frequently used in higher education parlance, yet poorly defined. What it means to be an “international institution” is debated, although Knight (2003, p. 2) defines it as “the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education.” Clugston, Corcoran and Calder (2002, p. 99) describe universities as “vested by society with... discerning truth, imparting values and socializing students to contribute to social progress and the advancement of knowledge.” Higher education philosophies are often epistemological, concerned with answering “the great questions of human existence,” seeking knowledge to do this (Wright, 2009). However, there is a moral obligation to *apply* this knowledge and solve complex societal problems, which are increasingly international in nature (Wright, 2009).

Striving for common goals is considered to bring about mutual understanding, promoting peace and national security (Brondenburg and de Wit; 2011; Kreber, 2009), while diversity increases teaching and research quality. There are also economic benefits and it is this view of higher education as a tradable commodity that polarizes academic staff: while academics

see the benefits of internationalization, they also fear that what goes under this banner in many institutions is really “globalization” - a response to macro socioeconomic pressures. Sadly, there is evidence for this in the form of questionable standards and poor quality assurance within some institutions heavily dependent on revenue from international students (Knight, 2011).

Revenue generation is perhaps behind what Schweisfurth and Gu (2009) describe as “symbolic internationalization” whereby institutions maximize income by doing the least the market will bear (Altbach and Knight, 2007). This is compounded by lack of experience and leadership in a rapidly changing educational landscape and, while universities invariably declare institution-wide goals for internationalization, there is a lack of strategy and infrastructure to support this (Crisan-Mitra and Borza, 2015; Dewey and Duff, 2009). Stromquist (2007) uses the term “internationalization” to describe this market-oriented approach, and coins a new term “*internationalism*” to describe an ideology capturing transformative internationalization, which represents a strategic and systematic approach to becoming an international organization as described by Knight (2003) above.

International recruitment is often financially driven (Karram, 2013), and many institutions take a passive approach to internationalization, assuming that an internationalized curriculum and culture will grow as the student body becomes more diverse. In reality, international students often feel marginalized and become segregated from domestic students.

### **‘Otherness’ as a risk to international student well-being**

Student well-being is an increasing focus of higher education (Turner, Holdsworth and Scott-Young, 2017). The drive for increasing access and retention has led to recognition of risk

factors threatening student success. With respect to well-being, international students are a high-risk group. While higher education is new to many students, international students must adjust culturally, experiencing stressors such as cultural shock, language and communication barriers (Sibley, Hamilton and Chugh, 2015). Some are likely to need support in transitioning to this new environment (Anderson, Goodman and Schlossberg, 2012) and indeed academic outcomes are negatively impacted if students are unable to access support services. The UK's Equity Challenge Unit report on Attracting International Students (2012) found international students were less likely than their domestic peers to disclose both physical and learning-related impairments, reducing support opportunities. Lack of disclosure seemed influenced by different cultural views and understanding of disability, often compounded by a lack of staff cultural capability. This raises an important issue: recruiting international students produces a diverse student body. Effective learning and teaching strategies rely on the social justice principle of equity of access, which recognises students are all "differently-abled," not just academically and physically, but also socially and culturally.

Social disability models recognise individuals have different capabilities but it is poorly designed environments that impose disabilities (Shakespeare, 2004). Such environments can mean social and cultural differences manifest themselves as disabilities, undermining success of international students. Institutions have moral, societal, financial and legislative obligations to *actively design* learning environments to support all students. This can be viewed in terms of *outcomes* of the educational *system*: internationalism should generate graduates whose attributes include global competency - "having an open mind while actively seeking to understand the cultural norms and expectations of others, leveraging this gained

knowledge to interact, communicate and work effectively outside one's environment."

(Hunter, White and Godbey 2006, p. 270).

### **Academic practice as a complex sociotechnical system**

Student achievement depends critically on contextual relevance. Increasingly, this is reflected in contemporary pedagogical and social theory as described in Boud and Brew's "reconceptualising academic work as professional practice" paper (2013). They suggest moving away from "considering attributes of people and things as if they were separate from the ways they operate together in the world, to conceptualising phenomena as connected, located and grounded in the practice of particular events and activities." (p. 211). They define practice as "linking thinking with doing" and "people with contexts," (p. 212), making the point that changing any one element will, in turn, change practice. Of particular appeal is "material mediation of practice," where practice is described as being undertaken "in conjunction with material arrangements." Material arrangements are simply the resources available and, in short, Boud and Brew (2013) are describing a work system. "System" is another ubiquitous term, frequently used and rarely defined, and it may be useful to consider the following: A system is a set of interrelated (coupled) entities united in a joint purpose (Dul et al., 2012). Entities include physical objects, the people working within the system (the "actors"), technology, processes and relationships, as well as cultural, organisational and legal constraints. When entities are tightly coupled (explicitly linked and inter-dependent), changes can cascade rapidly through the system, causing a ripple effect that may only be felt at a distance. These "ripples" are often referred to as "unintended consequences."

Systems can be small (micro: a single worker interacting with a tool); medium (meso: perhaps a work-based team); or large (macro: a hospital, for example). Macro systems are

‘sociotechnical’, where people work within organizations (Dul et al., 2012). Higher education institutions are undoubtedly complex sociotechnical systems, with so many interactions between entities that outcomes are difficult to predict, a concept called *emergence*. Student success and satisfaction are two such emergent properties.

Controversies regarding the use of student satisfaction metrics, including the UK’s National Student Survey (Buckley, 2012), pull this into focus, with many academics recognizing the student experience is too complex to be reduced in this manner (Smith and Worsfold, 2014). Changes driven by these metrics often fail, and the results of successful interventions are often nuanced. For example, Temple, Callender, Grove and Kersh’s (2016) study of student satisfaction in English higher education, described a concern that “emphasis on employability [comes] at the cost... of some of the ‘wider ideals of the university’.” (p. 41). Unfortunately, emergent properties are rarely managed systematically.

### **Challenges in developing a strategy**

The first challenge is mapping the academic practice system and describing its boundaries, difficult because the student experience encompasses much more than the taught curriculum. This is well-recognised within healthcare (Pingleton, Davis and Dickler, 2010), where exploration of factors shaping student internalisation of standards revealed “informal” and “hidden” curricula, which are neither articulated nor associated with learning outcomes. Informal describes experiential learning, while hidden describes unintended transmission of attitudes/values. When the culture of the learning environment is good, these contribute positively (Pingleton, et al., 2010; Robson, Clark, Pinnock, White and Baxendale, 2013).

More recent research (Vosper and Hignett, 2017) suggests academic processes may also contribute. Fitness to Practice processes are an example – little time is spent discussing

these, and students only learn more if they end up on the wrong side of these codes of conduct. This experience is likely to be negative, and international students may be particularly affected if staff fail to realise there is a strong cultural component to acceptable professional practice (Amsberry, 2009; Handa and Power, 2005).

Beyond this, hidden curricula are influenced by social and cultural experiences, and the international student hidden curriculum undoubtedly looks different to the domestic one (Elliot, Baumfield, Reid and Makara, 2016; Telbis, Helgeson and Kingsbury, 2014).

Understanding the hidden curriculum and using it to support student success requires staff to work in a *participative* manner with students, providing space within the curriculum to debrief hidden experiences, turning them into learning resources.

### **A Human Factors/Ergonomics answer to the challenges of internationalization**

We have described academic practice as a *system*, the *design* of which is critical for positive student outcomes including *well-being*. Regarding internationalization, there is little in terms of active design to support the student experience. Human Factors, also known as Ergonomics (HFE), is the science of human interaction with the systems in which they operate, and the outputs are applied in practice, which involves a design-based systems approach to optimizing outcomes and improving well-being. HFE tools allow users to describe and map systems, exploring how elements interact, and to re-design systems to promote good outcomes and prevent poor ones. HFE explores ‘work as done’ rather than ‘work as imagined’ (ie what people do routinely when under pressure and multi-tasking). This is particularly valuable in academia, where academics have considerable autonomy – their activity may well contribute to the hidden curriculum. HFE is *participatory* – exploring systems draws on the perspectives of all the actors, who then work in partnership to achieve



optimization. It thus can potentially unlock the hidden curriculum. HFE is embedded within high-reliability organizations which operate in high-risk environments, yet have low incident rates. In the current higher education environment, risks to institutions, students, staff, and other stakeholders have never been higher. HFE-based approaches support risk mitigation and also (because they consider the system as a whole) allow management of competing outcomes, including balancing financial and quality drivers. Furthermore, accessibility and usability are major HFE concerns, meaning many tools can be used by non-experts, thus underpinning practical strategies supporting internationalization.

### **ISO 27500 as a strategy for internationalization**

ISO 27500 is the International Standard describing the principles and rationale behind becoming a human-centred organization. It recognises well-being as an important economic measure. The focus on well-being developed from the International Labour Organization (1958) declaration that “all human beings, irrespective of race, creed and sex have the right to pursue both their material wellbeing and their spiritual development in conditions of freedom and dignity, of economic security and equal opportunity.” (p. 1). In response, member states enacted protective legislation, but globalization has transferred this obligation to businesses as well as government. ISO 27500 is a distillation of these changes, aimed at senior management, summarizing the values and beliefs that make an organization human-centred, and suggesting ways this may be achieved. ISO 27500 is underpinned by HFE and has 7 defining principles (**Table 1**).

TABLE 1 SHOULD APPEAR ABOUT HERE

HFE strives for Universal Design: “Design... usable by all people to the greatest extent possible without the need for adaptation or specialized design (ISO 27500, 2016). This can be applied educationally. Diversity brings pedagogical challenges which staff struggle with because of a lack of understanding of the needs of students from diverse backgrounds. The Universal Design for Learning Framework supports proactive accommodation of diverse learner needs ([www.cast.org](http://www.cast.org)), encouraging development of learning materials with flexibility in terms of content, teaching methods and activities (Griful-Freixenet, Struyven, Verstichele and Andries, 2017). Examples include providing online materials allowing students to customise content display, or alternatives to usual visual and auditory sources. Choice and autonomy can be extended to assessment - so long as the learning outcomes are covered, the mode may not matter. Universal design strategies help *all* students, automatically supporting internationalization. Embedding HFE approaches encompasses the second ISO 27500 principle of “mak[ing] usability and accessibility strategic business objectives.”

### **Capitalize on individual differences as an organizational strength**

Within any community, members have different - but complementary – skills, which can be pooled to enhance the overall experience. This can include students having opportunities to meet educational outcomes through effectively managed group work, but is also about genuine partnership with students, helping staff capture the international student perspective and reflecting this within the curriculum, making learning experiences more culturally relevant for *all* students. One example from the author’s institution aligns with the University College London (UCL) project “Why is my curriculum white?” Peters (2015), explains how, despite public commitments to diversity, many curricula reflect the colonialist, white Eurocentric origins of higher education. On the RGU undergraduate pharmacy course, students can choose educational research projects. One student, recognising the curriculum

focussed heavily on the white Scottish perspective, was keen to address this. While the student was first-generation British, she was aware of cultural and language barriers her parents faced when settling in the UK (and their impact on accessing healthcare). She developed learning resources (now embedded within the curriculum) that openly explored these issues. This provoked discussion with staff, stimulating ongoing activity, with additional resources being created. Equity and diversity training were introduced into the curriculum, allowing international students (and home students from underrepresented groups) to educate peers and staff, contributing to a more diverse curriculum.

Well-designed working and social spaces, accessible and attractive to all, also promote international student integration (Cleveland and Fisher, 2014). Accessibility is more than physical – spaces need to feel culturally acceptable and safe if a level playing field is to be created where everyone can benefit from “otherness” rather than being separated by it. Accessibility must also be extended to learning resources – these should be universally designed (and user-tested) in partnership with students representative of the student body (Griful-Freixenet et al., 2017). Build in sociocultural dimensions where appropriate - for example, tools supporting students in avoiding plagiarism can openly discuss cultural differences in acceptability of textual borrowing. Finally, clearly communicate institutional commitment to diversity. Ensure it is enshrined in policy and strategy at all levels and acknowledge (through reward systems) members of the community for positive contributions.

### **Adopt a systems approach**

HFE frameworks allow outcomes to be captured and the system entities to be described.

They also support description of the interactions between entities – and how these contribute

to outcomes. Identifying the critical relationships between specific entities supports resourcing decisions. One tool is the Systems Engineering Initiative for Patient Safety (SEIPS 2.0; Holden et al., 2013). SEIPS 2.0 draws on ergonomic and healthcare quality models, but can be equally well-applied to educational practice. SEIPS 2.0 as applied in education is described in **Figure 1**.

FIGURE 1 SHOULD APPEAR ABOUT HERE

The system boundaries must be defined: this means deciding what is meant by the system - is it a course/programme or the university as a whole? Modelling complex systems requires working with stakeholders to build a picture of “work as done,” rather than “work as imagined,” using a mix of data collection techniques. Quantitative data is likely to be available for some outcomes (such as student achievement), and there will be physical evidence in terms of strategic documentation and teaching resources. Focus groups, interviews, and direct observation of activity support building a complete picture. Outcomes can be both positive and negative and can be proximal or distal (in relation to the time frame for emergence). Having built the model, we can focus on interactions between entities and explore how these might be improved to enhance outcomes. An example concerning internationalization is given in the case study later in this chapter.

The sociotechnical perspective sees system actors as active contributors to outcomes, with empowerment arising from choice and control over their own work. Within the curriculum, this can range from student-selected study components through to effective mechanisms supporting staff and student partnership. Other aspects include recognising effective design

of learning environments and resources is likely to evolve through multiple iterations - there must be a quality enhancement (not merely assurance) approach to academic practice.

Systems thinking does not come naturally and support is valuable. Potential sources are listed at the end of this chapter, but expertise may be available closer to home. Many disciplines use HFE and, by drawing on the diversity of staff as well as students, it may be possible to identify “systems champions.”

### **Ensure health, safety and well-being are business priorities**

Health and safety management involves identifying potential hazards, and the likelihood of the hazard being realised is estimated, before invoking control measures. Staff and students are likely to be familiar with such processes, as risk assessments relating to learning and teaching activities are not new. However, this level of care is rarely extended to include well-being. Staff should respond proactively to international student needs, embedding support within learning and assessment activities. For example, language proficiency is a risk factor influencing student success. Multiple choice examination questions are particularly challenging for students working in a language other than their first. There are often many questions, rapid changes of focus, with every word critical to understanding. Such assessments may not measure the international student’s knowledge, but the rate at which he/she is able to translate the question. Similar problems face students with visual processing impairments. Is there a difference if the processing speed comes from a physical/cognitive impairment or from a *cultural* impairment (one way of looking at working in a second language where the speaker is not fluent)? It may be better (and less stigmatizing for students with diagnosed impairments) if the examination duration is increased for all (a universal design approach).

Ways of demonstrating institutional commitment to international student well-being include embedding the above activities within learning and teaching strategies. The past decade has seen several countries launch national programs designed to encourage institutions to recognise teaching as much as research. These programs have evolved as their influence on academic practice has emerged, such as the increasing focus on Scholarship of Teaching and Learning (Chalmers, 2011). Institutional reward systems should recognize activity supporting well-being, while actively *not* rewarding (but offering development for) staff who fail to demonstrate such considerations.

### **Value people and create meaningful work**

Proactive, accessible internationalization strategies prove to international students they are valued beyond their financial contribution. ‘Meaningful work’ in respect of internationalization means actively promoting integration. The value of integration should be positively marketed to students, making sure this is evidenced-based within the institutional context, such as using case studies based on previous successes. “Design-in” integration, by making “global competency” a graduate attribute. Assessment significantly influences student behaviour (Joughin, 2010) – assessing global competency may “force” integration. In selecting assessment methods, be careful with group work. Summative group assessment is not popular and, historically, this negative perception has become entrenched in relation to multicultural group working (De Vita, 2010) because domestic students often believe their marks are negatively affected within such groupings. Evidence suggests the opposite may be true (De Vita, 2010) with multicultural working improving scores. Positive evidence also comes from team-based learning, a student-centred approach gaining traction in pharmacy education (Tweddell, Clark and Nelson 2016). Students are allocated to groups based on “equal distribution of resource and liability.” This requires staff to articulate key strengths

and weaknesses for achieving learning outcomes and to recognise these in their students, making it valuable in delivering a constructively aligned curriculum. TBL is a flipped classroom, with students studying materials in advance of team sessions. At the beginning of each session, students take an individual “readiness assurance test” evaluating their pre-session activity, providing a baseline to measure the impact team activity has on performance. Working together, discussing answers, the test is performed again as a group. Team scores are invariably higher than the top individual score. The rest of the class concerns application exercises, with students solving complex problems within their teams. The discussion is then raised to a whole-class level. Such activities evidence the positive impact diversity has on performance, supporting student acceptance of integration.

Communication is a key element of valuing people. When communication is poor, there can be entrenchment of “us and them” attitudes. Such divisions are often seen between staff and students, as well as intercultural divisions. Often, this can be avoided simply by having opportunity to talk, which can be managed proactively by building in mechanisms as in the case study, where the student-led learning enhancement team provided an excellent communication platform.

Students (and staff) are more likely to feel valued within institutions where there is a just culture and a commitment to continuous improvement. Writing about adverse healthcare events, Leape (2009) asserted that non-punitive cultures support error prevention. However, this fails to acknowledge some actions warrant individual accountability (Petschonek et al., 2013). Just culture recognises this, representing “a collective understanding of where the line is drawn between blameless and blameworthy actions.” (Reason, 2000, p. 769). It reflects the systems thinking described above, recognising error is also an emergent property, but

including room for individual accountability (Burns, Mearns and McGeorge, 2006).

“Drawing the line,” however, is highly subjective, biased by the role of the decision-maker and hierarchy (Dekker, 2012; Chapter 2). Delivering just culture is as complex as the system it serves, and the complexity resides in the flawed assumption that there is one true story in the narrative of an adverse event. Dealing with adverse events requires someone to make a judgement call, and this judgement is simply a social construction, no more than somebody’s attribution. The reason that there is not one true story of any event is that all those involved have a different perspective and understanding of the event. Rasmussen (cited in Dekker, 2012; p49) captures this eloquently:

If we find ourselves asking “how could they have been so negligent, so reckless, so irresponsible?”, then this is not because the people in question were behaving bizarrely, it is because we have chosen the wrong frame of reference for understanding their behaviour.

This also captures the essence of truly just cultures: the idea is not to judge individuals for apparent failings, but to try and understand the context, what it was about the environment that made it seem reasonable to those involved to undertake the course of action they selected. If it made sense to this individual, then it is likely to make sense to others working under similar conditions.

This concept has much to offer educational institutions, especially in relation to internationalization. Just culture respects and actively draws on diverse viewpoints. It involves establishment of structures for sharing information and experiences, and using this to support continual improvement. A just culture approach to institutional disciplinary processes would be helpful, particularly when students are involved, such as investigating



alleged academic misconduct, such as plagiarism. Just investigations would reveal cultural contributions to apparent violations and findings could inform re-design of resources supporting students in understanding and avoiding such situations. This would support an institutional philosophy of “intelligent kindness” as asserted by Ballat and Campling (2011; p9). They describe kindness as

...a condition in which people recognise their nature, know and feel that this is essentially one with that of their kin, understand and feel their interdependence.... and express all this in attitudes and actions towards each other. Kindness is both an obligation to one’s kin born of *our understanding of our connectedness*, and the natural expression of our attitudes and feelings arising from this connectedness [author’s italics].

### **Be open and trustworthy**

Internationalization should be embedded throughout policy at all levels, including school/department learning, teaching and assessment strategies. These documents should be brought to life with examples of effective practice that have yielded demonstrable benefits for the student community.

Staff cultural competency is problematic. This is not necessarily a big issue if (a) staff recognise their development needs and are supported in addressing these and (b) if staff enter into open, honest dialogue with students about their journeys to cultural competence. Policy creation and communication as well as staff development can be tackled creatively through student partnership. There is increasing recognition that engaging students in higher-level activity, such as pedagogical design, bridges the gap between staff and students, deepening mutual understanding, and helping students understand their responsibilities in relation to

their own learning (Bovill, Cook-Sather and Felton, 2011). Working together on policy development will help staff develop a deeper understanding of the issues important to international students, and such students are more likely to end up with an internationalization strategy that they recognise as valuable. This is another example of ‘meaningful work’ – international students can be excellent teachers and drivers of staff development.

### **Act in responsible ways**

This principle includes environmental responsibility. Environmental issues are some of the most complex problems facing society and there is a focus on sustainability across the higher education sector (Wright, 2009). As well as sustainability being a goal in its own right, it also offers another opportunity for institutions to show they care. Different nationalities are affected disproportionately by environmental concerns – exercising responsibilities sends a powerful message to students from such nationalities, deepening mutual understanding.

This principle also respects human rights – racism is a risk when different cultures mix. Institutional strategies should support positive relationships but deal actively with negative outcomes. There should be clear (and just!) policies for dealing with such behaviours, whilst recognising there will be cultural challenges that can be difficult to overcome.

### **Risks of failing to adopt human-centred organization principles**

ISO 27500 offers a useful framework for developing a meaningful internationalization strategy that communicates to international students that they are valued. Students are more likely to understand the mission and vision of the university and act as ambassadors within their own countries, building reputation and potentially increasing recruitment. The approach

is also attractive to institutions – they will already be engaged to some extent with some of the principles because of legislative pressures. Adopting an integrated strategy is therefore about filling in the gaps.

Risks of not adopting a holistic approach include accusations of tokenistic internationalization. If international students feel unsupported they are unlikely to recommend the institution (Brewer and Zhao, 2010). Given the lack of internationalization strategy across the sector, evidencing proactive strategies based on international student wellbeing may give the university a new USP. Universally designing the curriculum is not a quick fix - it requires collaborative working with representative stakeholders through multiple cycles of iterative design, and will have an upfront cost. However, resources designed in this way should be easier to understand and use, potentially reducing on-going support costs.

### **Case study**

The author's home institution has high graduate employability, partly because many courses have professional body recognition and are associated with particular professional destinations. The School of Pharmacy and Life Sciences has seen an increase in the intake of international students in recent years. The School has had a detailed Learning, Teaching and Assessment Strategy for some years, but relatively little attention had been paid to the international aspect. A subsequent update saw a commitment to embedding ISO 27500 and the first stage involved a systems analysis of the academic provision using SEIPS 2.0. Data included thematic analysis of outputs from focus groups and interviews with relevant stakeholders, and was used to model the system. The main elements of the work system are listed in Table 2, while Figure 2 shows the main interactions between elements (illustrated by the lines linking elements). It can be seen that cultural competency is particularly important

(it has the highest number of links with other work system elements). Students perceived a lack of cultural competency to negatively affect them in a number of ways, particularly in relation to group work and assessment as described above. One unexpected issue related to identity: students felt the university viewed them as members of their course, rather than as international students. While this was viewed positively in many ways, some students perceived a failure to recognise the specific needs of international students. One example was that certain African countries are facing liquidity challenges, meaning sponsors struggle to release cash to pay fees. When fees are in arrears, access to the virtual learning environment (and other services) may be blocked, which can significantly impact student performance. These outcomes suggested that developing staff (and peer) cultural competency and supporting staff and student partnership would be the most effective enablers of internationalization. There was already an effective model of student partnership within the School – students can join the School Learning Enhancement Team, which allows them to contribute to curriculum design. ‘Internationalization’ has been added to this group’s agenda. Developing cultural competency was considered an institution-wide responsibility, and the University is undertaking a project called “Embedding Equality and Diversity in the Curriculum.”

### **Summary:**

Developing a meaningful internationalization strategy is not a quick fix. It involves addressing complex issues, through collaborative approaches and commitment to a cycle of continuous improvement. While this is challenging, the potential gains are great – educationally rich programmes that reflect the diversity of the societies we live in and a competitive offering that attracts good students. The following resources may be useful:

Chartered Institute of Ergonomics and Human Factors (CIEHF; UK body).

[www.ergonomics.org.uk](http://www.ergonomics.org.uk)

Human Factors and Ergonomics Society (HFES; US body) [www.hfes.org](http://www.hfes.org)

Human Factors and Ergonomics Society of Australia (HFESA) [www.ergonomics.org.au](http://www.ergonomics.org.au)

All of these are federated societies of the International Ergonomics Association (IEA). Visit [www.iea.cc](http://www.iea.cc) for contacts in other countries.

ISO 27500: <https://www.iso.org/standard/64239.html>

Universal Design for Learning: <http://www.udlcenter.org/aboutudl/whatisudl>

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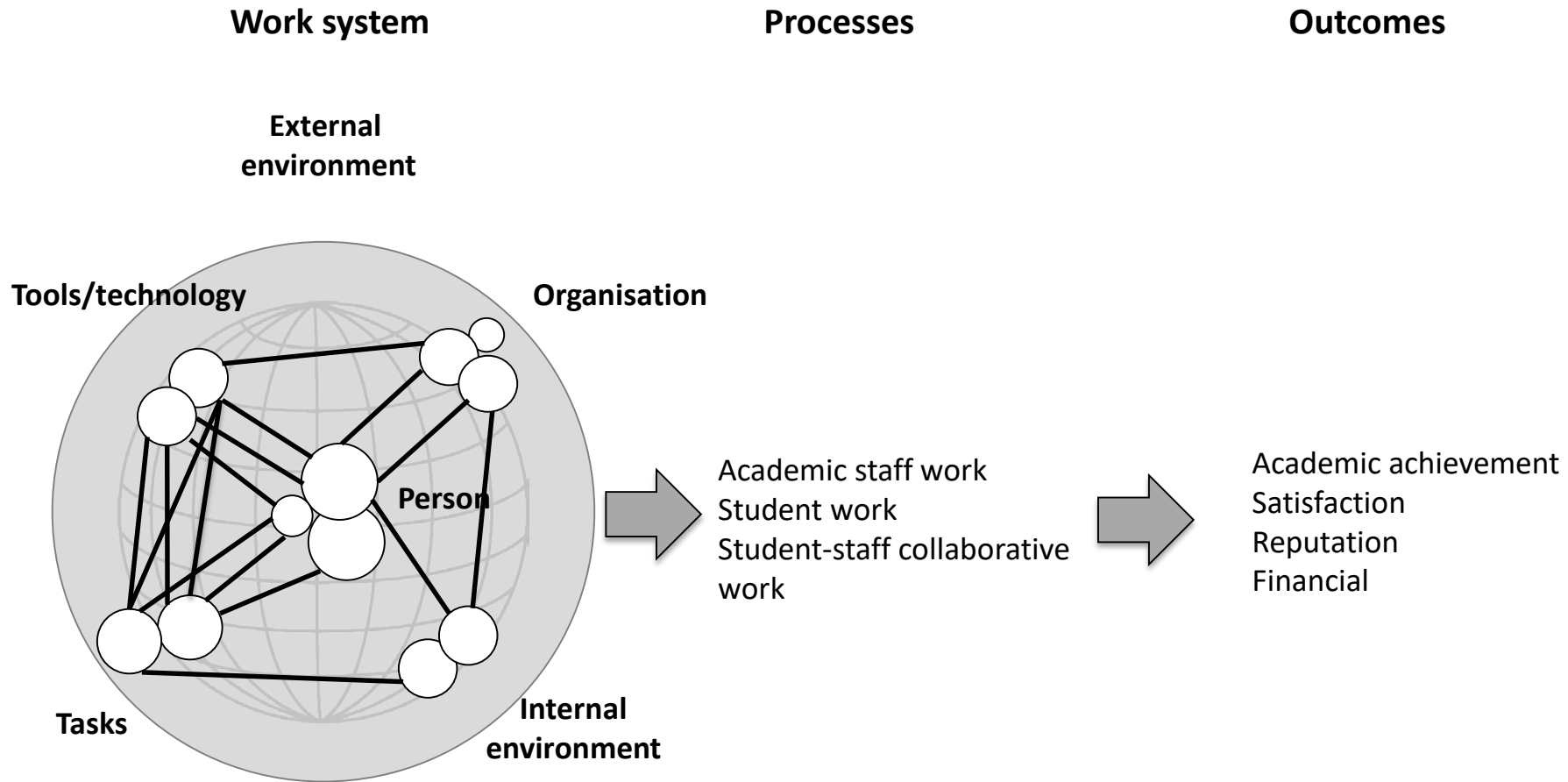
## Tables and figures

	Principle
1.	Capitalize on individual differences as an organizational strength
2.	Make usability and accessibility strategic business objectives
3.	Adopt a total systems approach
4.	Ensure health, safety and wellbeing are business priorities
5.	Value employees and create a meaningful work environment
6.	Be open and trustworthy
7.	Act in socially responsible ways

**Table 1:** Defining principles of ISO 27500

### Legend for Figure 1

**Figure 1:** People use tools/technologies to complete tasks in specific locations, influenced by organisational and external factors. Tasks form part of processes, which in turn generate system outcomes. SEIPS can be used retrospectively to re-design an existing system, but also proactively in initial design, so would be particularly useful in the early stages of course and program development.



**Figure 1**

Work system factors:
<p>Person factors</p> <ul style="list-style-type: none"> <li>• P1: Cultural competency (staff and peers)</li> <li>• P2: Communication within the School</li> <li>• P3: Interpersonal communication and the effect of language</li> <li>• P4: Comfort with disclosing additional learning support needs</li> </ul>
<p>Factors related to tools and technologies</p> <ul style="list-style-type: none"> <li>• T1: Interaction with plagiarism detection resources</li> <li>• T2: Access to the virtual learning environment</li> </ul>
<p>Task factors</p> <ul style="list-style-type: none"> <li>• Tas1: Assessment</li> <li>• Tas2: Group work</li> </ul>
<p>Organizational factors</p> <ul style="list-style-type: none"> <li>• O1: Extent to which institution recognizes the needs of international students as a group</li> <li>• O2: Extent to which institution is perceived as only valuing international students as a source of revenue</li> </ul>
<p>Factors relating to the internal environment</p> <ul style="list-style-type: none"> <li>• IE1: Spaces for students to integrate</li> <li>• IE2: IT infrastructure</li> </ul>
<p>External environment</p> <ul style="list-style-type: none"> <li>• EE1: Political climate</li> </ul>

**Table 2:** Work system factors affecting outcomes related to international student achievement, satisfaction and wellbeing

## Legend for Figure 2

Figure 2: Main interactions of work system elements influencing international student achievement, satisfaction and wellbeing (indicated by lines linking circles). The more lines linking to an individual element, the more important it is likely to be in influencing system outcomes. For key, see **Table 2**. The results suggest staff cultural competency is particularly influential. This linked to (i) organizational factors: Students perceived lack of cultural understanding meant the university failed to recognize specific needs of international students and tended to view them as a revenue source; (ii) Tools and technologies: Several international students came from countries where financial liquidity issues affected their ability to pay fees. This could mean they were prevented from accessing the virtual learning environment; (iii) Tasks: Assessment tasks were not always seen as relevant to international students, while a lack of staff and peer cultural competency was seen as making group work challenging; (iv) Internal environment: Lack of suitable spaces for socialization made students feel as though the university didn't understand the integration needs of international students.



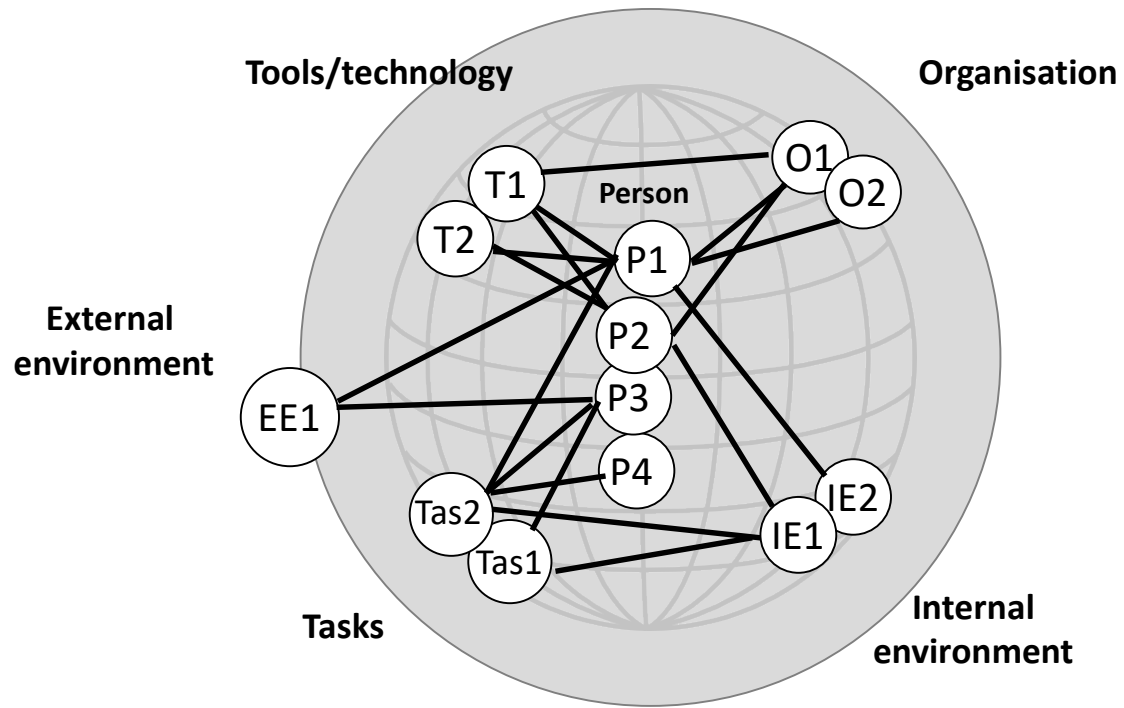


Figure 2