Technological University Dublin

ARROW@TU Dublin

Stream 4: Enterprising University

Higher Education in Transformation
Conference, Dublin, 2015

2015-4

Graduate Work-Readiness in the 21st Century

John Keogh
Institute of Technology Tallaght Dublin, john.keogh@ittdublin.ie

Theresa Maguire
National Forum for the Enhancement of Teaching and Learning, Ireland,
terry.maguire@teachingandlearning.ie

John O'Donoghue
University of Limerick, john.odonoghue@ul.ie

Follow this and additional works at: https://arrow.tudublin.ie/st4

Part of the Curriculum and Instruction Commons

Recommended Citation

Graduate Work-Readiness in the 21st Century

Dr John J. Keogh

The Institute of Technology Tallaght, Dublin 24, Ireland. john.keogh@ittdublin.ie.

Dr Theresa Maguire

Director, National Forum for the Enhancement of Teaching and Learning, Dawson Street, Dublin 2, Ireland. terry.maguire@teachingandlearning.ie.

Professor John O'Donoghue

University of Limerick, Limerick, Ireland john.odonoghue@ul.ie

Abstract

The term 'graduateness' is beginning to be used, nationally and internationally, to describe a range of competences thought to match the demands of the workplace. There is no accompanying unifying definition, nor framework for formal recognition, rather it is used to imply a combination of attributes that varies between types of Higher Education Institutions across the World. In Ireland, the desirable characteristics of 21st century graduates variously include qualities of being 'Creative and Enterprising, Solution-Orientated, Effective Communicators, and Globally Engaged Active Leaders' (DCU 2014). Similarly, they should be engaged, enterprising, enquiry-based, effective and expert in their chosen field (DIT, 2013). While the value of these qualities is not contested here, they may be more appropriate to individuals who are growing in their professional maturity, but less so in their first encounter with work.

This paper argues that 21st century graduates should be supported in their transition to the world of work by being equipped with the resources to assimilate the activities of their host rapidly, to assess how their particular role is situated, supplied, and constrained, and appreciate its associated expectations, risks and consequences. Graduate success in the workplace could be underpinned by a methodology that guides formative reflection and develops their ability to evaluate work experiences, both actual and vicarious, within a framework that captures, recognises and reinforces the depth of their tacit learning. This approach may help create a solid foundation for long-term employability, enable the realisation of 21st Century Graduate attributes, and presage their formal recognition, at home and beyond, in the fullest sense. The authors offer a comprehensive workplace-specific protocol and an accompanying methodology that enables graduates not only to assert that they are work-ready, but to provide the evidence.

Keywords: graduateness, transition framework, work-placement methodology, hitting the ground running, graduate attributes, tacit learning, QQI recognition, long-term employability, workplace-complexity protocol.

Work Readiness of the 21st Century Graduate

The term 'graduateness' is beginning to be used, nationally and internationally, to describe a range of competences thought to match the demands of the modern workplace. Work is underway to identify what precisely these outcomes are and how curricula can be fine-tuned to achieve them, and will mature over the next years.   In Ireland, the desirable characteristics of 21st century graduates variously include qualities of being 'Creative and Enterprising, Solution-Orientated, Effective Communicators, and Globally Engaged Active Leaders' (DCU, 2012) . Similarly, they should be Engaged, Enterprising, Enquiry-based, Effective and Expert in their chosen field (DIT, 2014). The University of Limerick produce graduates that are expected to be Knowledgeable, Proactive, Creative, Responsible, Collaborative & Articulate (UL, 2013). While the value of these qualities is not

contested here, the authors argue that even having inculcated these graduate characteristics, there remains a gap in preparedness for work.

The key insight underpinning this proposal is that the context of the workplace is quite different from the formal learning context in which professional knowledge, skills and competence are acquired. The 21st Century Graduates should be supported in their transition to the world of work by being equipped with the resources to assimilate the activities of their host rapidly, to assess how their particular role is situated, supplied, and constrained, and appreciate its associated expectations, risks and consequences.

The Workplace
The notion of 'workplace' defies definition other than in the most general terms e.g., being engaged in an activity, not necessarily dependent on time or place, for a consideration which may be material or otherwise. That there are few workplaces, if any, that can be described in terms of a single, self-contained process , was recognised by the evolution of Cultural Historical Activity Theory (Engeström, 2001), to account for the interacting activity systems, Figure 1.
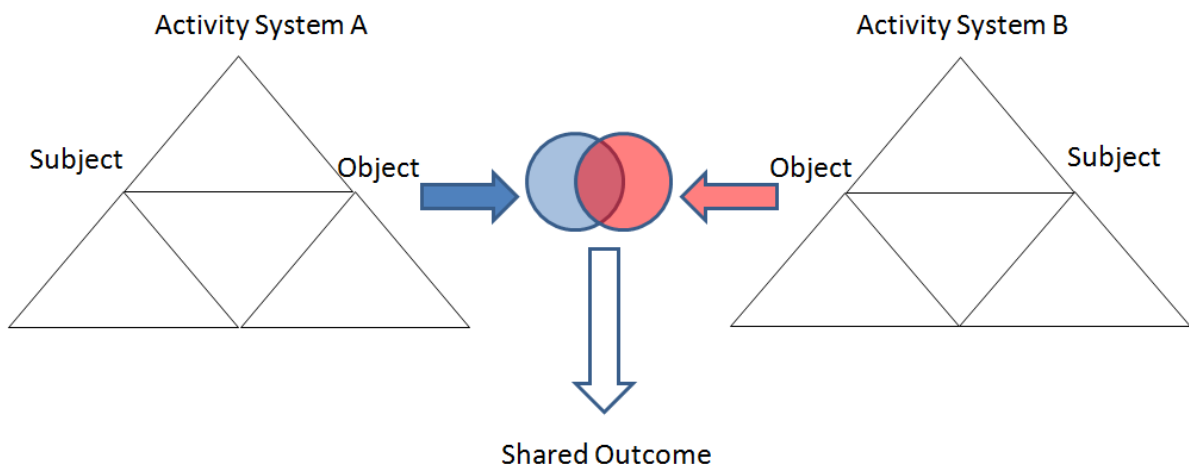

Figure 1. Two Interacting Activity Systems: a minimal model for the third generation of Activity Theory (Engestrom, 2001).

This serves as a useful lens to illustrate the nature of the encounter between two activities and the potential for a set of outcomes that may not be completely anticipated by the engaged parties. It also indicates the variety of factors that must behave coherently to achieve their shared 'object', regardless of the outcome which me feature some unexpected affordances.

Such activity systems, while Activity-centric it perspective, are typically populated by individuals, each of whom are motivated to the pursuit of the object by being a member of community, who shape and are shaped by rules, both formal and informal, who occupy roles according to their expertise and participate with the assent of the activity system members, (Engeström & Kerosuo, 2003). On closer examination, each individual may be engaged in multiple, interleaving activities, each with its own characteristics, rules,

expectations, motivations and so on, as illustrated by an elaboration of the Activity Systems, Figure 2, which place the subject at the centre of their surrounding activities.

Subject-centric Activity Systems, (Keogh, Maguire, & O'Donoghue, 2012), reflect the dynamic environment in which the individual worker is required to operate. Figure 2, draws attention to the practical observation that the process of work, while comprising an eponymous 'principal activity', tends to feature multiple interactions with other activities that may be characterised by different rules, culture, agenda, expectation, motivation, and stated 'object'. Even though the 'principal activity' may be associated with a specific knowledge domain, having to deal with multiple facets of the workplace requires a range and depth of knowledge, skills and competence that differs, perhaps profoundly, from those achieved by the learning outcomes determined by the topic curriculum. A useful step may be to equip students with the wherewithal to examine the workplace, so that they may be more able to make the transition for formal learning environment to the complex context of work.
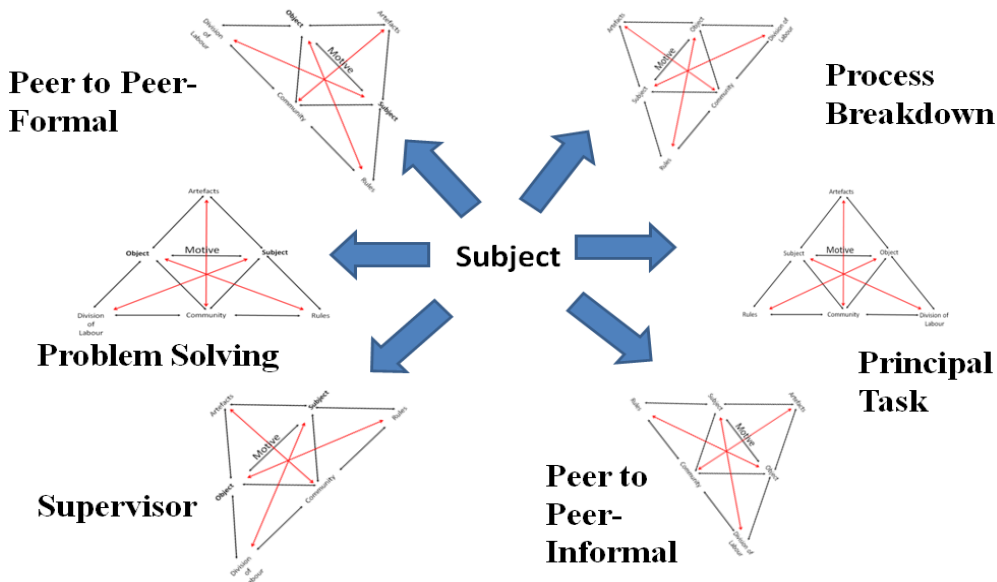

Figure 2. Subject-centric Activity System

Workplace Complexity
The workplace experience is unlikely to be limited to the examples in Figure 2, but this may be sufficient to make the point that the subject is involved in multiple activities that occur in multiple combinations, conditioned by multiple factors. Each of the surrounding activities may be further described by factors that add to the depth of the competence needed to be ready for work. This array of workplace competence may be recognised as being acquired by 'experience', often equated with time served 'on-the-job', but less explicit otherwise.

The authors, in seeking to bring order to the apparent chaos of the first encounter with work, offer the following cluster of characteristics that describe the environment in which graduates are expected to realise the power of their

formally- acquired knowledge, skills and competence, Figure 3.

These dimensions of the workplace may not be exhaustive or complete, but their recognition may provide a platform from which formal education provision may begin to modify the fabric of the curricula to take account of the complexity of the workplace. In this way being work-ready would be a demonstrable, rather than an aspirational expectation for the shape of the 21st century graduate, who realise that their formal qualifications will be expressed in contexts described in terms of Accountability, Clarity, Familiarity, Volatility and Stress.
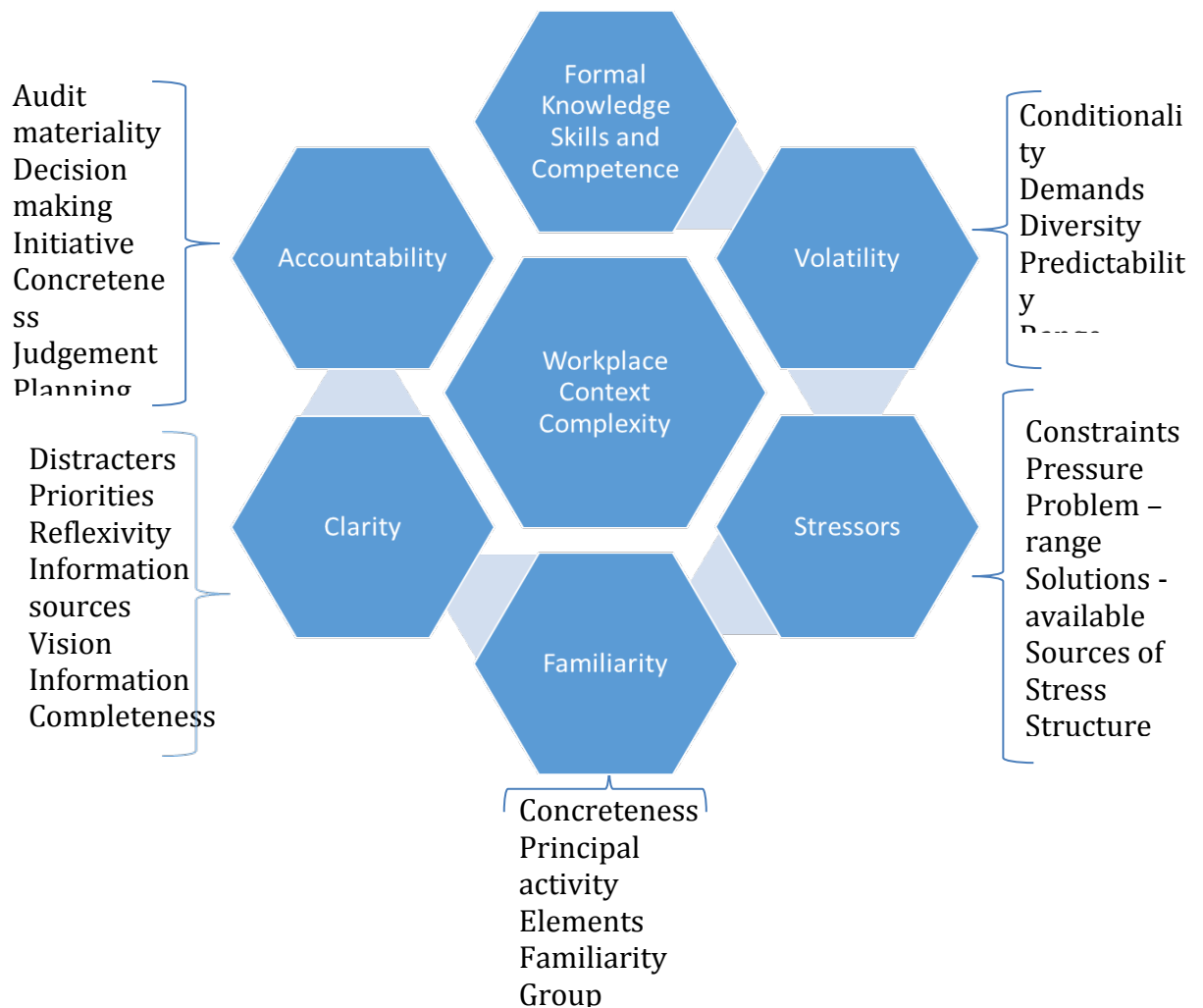
Audit
materiality
Decision
making
Initiative
Concretene
ss
Judgement
Planning

Conditionali
ty
Demands
Diversity
Predictabilit
y

Distracters
Priorities
Reflexivity
Information
sources
Vision
Information
Completeness

Constraints
Pressure
Problem –
range
Solutions -
available
Sources of
Stress
Structure

Concreteness
Principal
activity
Elements
Familiarity
Group

(Hexagons: Formal Knowledge Skills and Competence, Accountability, Volatility, Workplace Context Complexity, Clarity, Stressors, Familiarity)

Figure 3. Workplace Context Complexity – Interacting affective factors

Accountability
A common dictionary definition of the term 'accountability' is having to do with taking responsibility or being in some way culpable, connoting a degree of power and control as might be associated with a supervisory or management role. The corollary is that the 'ordinary' worker is unaccountable and completely free of responsibility. The authors posit that accountability is a more immediate and tangible concept, comprising a range of components,

each defining part of its context viz., *Audit Materiality*, *Decision Making*, *Initiative*, *Concreteness*, *Judgment*, *Planning* and *Responsibility*, each of which vary in degree of intensity from job to job, as elaborated in the following sub-sections.

Audit Materiality refers to the potential impact of human error, ranging from the negligible to the catastrophic. Depending on the context, workers can, by making a simple mistake, compromise the service provided by the employer and expose the organization to embarrassment, loss of business, reputation and the risk of complete failure, despite the presence of appropriate processes and Standard Operating Procedures (SOP). Materiality may exert a considerable influence on how and when an individual might be expected to *make a decision*, which, although relatively insignificant at the point of application, may gather in its implications further down-stream. The freedom to make a decision may be conditioned by the extent to which a worker has the latitude to exercise *initiative*. This may range from the authority to assess a novel situation and respond accordingly, or being required to apply the SOPs to the letter. There may be a 'fuzzy' understanding of when the worker is expected to use his/her initiative and when not, with a possible consequence of placing his/her continued employment at risk.

The elements that comprise a job may be few, easily recognisable, and physically present. Towards the opposite end of the spectrum of *concreteness*, and incrementing in complexity, some or many work components may be abstract, theoretical or imagined or required to meet an unarticulated aesthetic standard. That these variables may conflict from time to time, may require the worker to resolve them whether for an immediate, personal benefit or in favour of the organisation's long term interest. Such interventions, in the absence of appropriate SOP, may draw on the individual's *judgement*, informed by previous experience or insight regarding likely consequences. While *planning* is a component of workplace context at the higher end of the spectrum, it is typically associated with optimising the likelihood of a satisfactory outcome. So-called low-grade jobs may have little or no involvement in planning, although this may not be the case in the strictest sense. The authors argue that every job contains some element of sequencing tasks with the benefit of local knowledge, explicitly or tacitly learned and keeping in mind tasks that follow and subject to rules and guidelines that vary in specificity.

Similarly, *responsibility,* has become synonymous with guilt and the definition of who pays compensation when something goes wrong. While it is associated with high status and the power to command resources, the authors suggest that it trickles down through the hierarchy, depositing degrees of responsibility at every identifiable level, including those at the lowest level, whose livelihood may be at stake. Each of these sub-dimensions of Accountability interacts in unique combinations and may be influenced by the degree of **Clarity** with which the context is perceived by the worker and his/her colleagues.

Clarity

Clarity of aims and objectives is a desirable feature of the workplace at every level. The authors suggest that the extent of clarity in the workplace is a combination of the interaction of several factors namely, *Distracters, Priorities, Reflectivity, Information Sources, Vision* and *Information Completeness*.

Distracters, as an affective factor, refers to the likely presence of elements that may distract the worker from their purpose, or add the potential for confusion and error. Simple, tightly defined jobs, involving one or few elements would seem to be free of distracters, except perhaps boredom born of narrow, repetitive cycles. Towards the upper end, it may become more difficult to discriminate between pertinent factors and distracters that are embedded and plausible, and maybe further compounded by prioritising one outcome rather than others. The setting of *priorities* is a function of the control and command structure in organisations, but not exclusively so. Discretion regarding priorities is not aligned, necessarily, with job status, especially in global enterprises that commission very specific outcomes from plants spread across the World. Formal and informal priorities may be informed by the extent of reflection expected, implied, or permitted in work practice.

Reflective practice in industry is common, although it may be realised as project review, strategic planning, periodic reports, performance review, and systems and financial audits. It may be initiated in reaction to a costly error or in pursuit of continuous improvement and may inject a force for change in the metrics and methods employed in work practice. In contrast, some work practices may not lend themselves to encouraging reflection, being satisfied to execute processes and procedures where the cost of 'failure' might not justify the remedial cost. The likelihood, or otherwise of failure, may reflect the range of *information sources* that the worker is required to take into account. Work information may arise from a single, simple source, expressed in job specific terms at the lower end, to multiple sources in various formats, referencing concrete, abstract and theoretical data on familiar and unfamiliar topics at the upper. It may be verbal and non-specific, requiring informed interpretation, contrasting with neatly packaged, classroom-information. The breadth of information may serve to enhance the worker's *vision* and consequent meaningfulness of the job. It underpins the sense of purpose beyond the boundaries of the job, and understanding of how the output of the job integrates with surrounding activity, to produce something that is whole in itself. In contrast with information provided in a classroom, workers may have to deal with *information* that is *incomplete* to some extent. Work information is likely to be complete in circumstances that are tightly controlled and closely monitored, although not necessarily so. Incomplete or imprecise information imports guesswork and uncertainty, however informed, and tends to increase the risk of error. At the leading edge of industrial research and development, complete information is the object being pursued. Creative and innovative activities feature aspects that are known and unknown in extent, and the recognition that there may be other unknown-unknowns, and perhaps even the unknowable.

Exposure over time may contribute to the extent to which the characteristics

and properties of the workplace become ***familiar***.

Familiarity

Familiarity is a gauge of the 'comfort zone'; a concept rooted in Adventure Education which indicates an anxiety-neutral, risk-free environment conducive to steady performance (White, 2009). It may be realised in the workplace as a state in which the worker is well-practiced in the performance of a sequence of tasks, in unchanging surroundings, in encounter with stable, recognised components. Beyond the 'comfort zone', lies the 'stretch zone' in which it is thought there exists a fundamental disequilibrium which promotes intellectual development and personal growth (Panicucci, 2007). Such a workplace presents challenges to the worker that are nonetheless within their capacity to achieve. An overall sense of familiarity, or otherwise, may be the product of *Specificity*, the nature of the *Principal Activity*, the range of job-related *Elements,* their associated *Facets,* the impact of *Groups* in work and *Routine*. *Specificity* refers to the extent to which components of a job are specific, recognised and unvarying at one extreme, in contrast with the abstract, theoretical, and widely varying at the other, with gradations in between to account for degrees of transformation from one to the other, shaping the worker's *Principal Activity*. For example, a single, closely defined and monitored, solitary activity has a simplifying effect on the worker's job. In contrast, a person, at the leading edge of his/her discipline is likely to encounter a wide variety of familiar and unfamiliar situations, diagnose problems, develop creative solutions and implement them, in multiple interacting activities, comprising few or many contributing *elements*. A job may comprise a single element at the basic level, or progress through an unvarying sequence of tasks, to one that is moderately, or extensively influenced by internal or external factors, some of which may be unfamiliar. This reflects complexity in the sense of the number of elements and the ways in which the elements can be combined. As these quantities increase so too does the degree of complexity. Each element may be nuanced by different and multiple *facets* and not just an empirical count. This connotes a capacity to detect and interpret a particular instance of an element and to act accordingly. Facets may become familiar over time, but that may not preclude the emergence of a novel occurrence, all of which conjures up an influential consideration of the workplace context.

From time to time, a worker may be required to participate in an unfamiliar *group,* which may be large and substantially distributed across a number of locations in geography, time and culture. This implies a maturing set of knowledge skills and competence, and confidence in one's discipline –specific and other capabilities at their point of use, whether as a matter of routine or occasionally. Following a familiar set of tasks in the same sequence, repeatedly, may be a product of the constraints imposed by SOPs, conditioned by internal or external factors. However, unspecified factors / facets may emerge to shape the workplace-context in unanticipated ways. *Routine* is a ubiquitous dimension in work, and is not completely positive in its implications, but is worth regarding for its descriptive qualities. However, many workplaces may differ in the range of factors, including routine, that could contribute to stress experienced by workers.

Stressors

The uniqueness of the individual makes it impossible to be definitive about the causes and effects of stress in the workplace. The authors do not presume to comment on the possible effect of 'distress' in the workplace, but rather to introduce a range of factors that either singly or in combination, may change the experience of work, while using the same level of knowledge, skills and competence. Such factors may comprise: *Constraints, Pressure, Problem-potential range, Solutions, Sources of stress*, and *Structure* of the workplace.

In the unlikely event of limitless resources, *constraints* are imposed to optimize output and minimize the input of time, materials and labour. Ranging from the clear and simple at one end of the spectrum, to those which are broad, imprecisely defined and inferred from internal and external conditions at the other, constraints have the potential to simplify or complexify work. The presence of a few clear and fixed constraints is characteristic of a job at the lower end of the scale, whereas, multiple, flexible, interrelated and mutually regulating constraints may add substantially to the performance of work towards a specific outcome. In addition, workplace *pressures* may arise in many guises including the cultural, temporal, personal, professional, philosophical and political. Most common of these has to do with priority, urgency, accuracy and expectations that may vary in combination, sophistication and attendant anxiety associated with the experience of work, which may have profound consequences for the selection and application of relevant knowledge and skills to solve a *range of problems* which may vary in quantity, and diversity.

Simple jobs exhibit little or no potential for problems, excepting equipment breakdown. Even then, the worker may be required, or permitted only, to report the situation by triggering a call for attention. Jobs may increase in complexity in line with the number and possible range of familiar problems, through to levels of expertise needed to deal with multiple, mutually dependent, independent and/or novel problems. Similarly, the range of *available solutions* to problem situations escalates from there being one response to all problems, through a continuum of the application of familiar solutions to familiar problems, progressing to mainly unfamiliar problems to that requiring novel responses and creative solutions to unfamiliar problems. Each of these levels of expertise, adds to the palette with which to discriminate between the experience-value of different jobs, and the selection of the appropriate knowledge-based response. The context in which problem detection – solution application cycle, may be intensified by the perception and experience of stress.

There may be few, or many, centres from which workplace *stress* may arise. They may be internal or external to which the individual is exposed partially, moderately or broadly. They may be avoidable , or an integral part of the work, having a relentless and cumulative effect. A more complete treatment of stress in the workplace is beyond the scope of this document, however, dealing with multiple sources of stress in work, is, potentially, very challenging to the individual, and may affect deeply, the environment in which knowledge and skills find expression. One such source of stress could be the *structure* of the work environment. Working in a highly structured, tightly defined

organization, lends simplicity to its functions, albeit at the cost of flexibility, which itself might cause stress. Clarity concerning demarcation, rules, accountability and so on may cause lower levels of stress. Loosely structured, broadly defined, matrix-configured organizations, may give rise to increased levels of stress as a result of their fluid, inherently unstable nature, which could be described in terms of volatility.

Volatility
Volatility is the property of frequent and unanticipated change that may be short-lived. The extent of volatility in the workplace necessitates the capacity to respond to sudden and new developments in the market or the customers' demands. It may be characterized as occurring over five transitions namely, completely stable, mainly stable, moderately unstable, mainly unstable, and completely unstable. Organizations and their embedded jobs are subject to change with varying degrees of need and urgency, as may be profiled by *Conditionality, Demands, Diversity, Predictability, Range* and *Risk.*

The performance of work may be subject to a variety of conditions, the state of which may be determined by known or unknown, internal or external factors, themselves being influenced by other conditions. The range of affective conditions may differ in quantity and power. The recognition of *conditionality* and the extent to which it pertains to a job, reflects the set of appropriate knowledge and skills and the competence that it develops in response to a variety of *demands* which justifies the job. Simple jobs have few demands that are clearly defined and relatively easily met. More complex jobs feature multiple demands that may not easily coalesce and may compete for resources. At this extreme, the worker sequences his/her activities, and may deploy innovative methods to cope. The effect of multiple, competing demands, may de-stabilize the job to an extent that is unlikely in a job profiled by one or few demands and addressed fully by SOPs.

That a job may feature diversity is the property of difference, rather than breadth. In the workplace, it refers to the extent of heterogeneity, and coherence of the tasks. There are jobs that occupy the boundaries of several specialities which enable cooperation and communication, whereas, a completely homogenous workplace implies little scope for diversity and the skills needed to cater for it. The extent of diversity may influence itsmpredictability. Complete *predictability* engenders familiarity, stability, clarity, and the establishment of routine. Complete unpredictability adds depth to many of the other factors including stress, accountability, familiarity and the absence of clarity. The majority of jobs probably lie between these two poles, but contribute to shaping the job-context nonetheless.

Furthermore, the breadth of components associated with a job confers the potential for complexity commensurate with its *range*. Single-issue jobs are simpler and more straightforward when compared to those encompassing several issues distributed over a broad, yet coherent, landscape. Perhaps the most volatile aspect of a job is *risk*, i.e. certainty of outcome and the extent to which it is confined. Risk may be classified as that component of a decision-making process for which there is insufficient information to ensure the

desired outcome. It may not be permanent and pervasive and may be conditioned and limited. Most jobs are located along a continuum between these extremes, exerting concomitant influence on the context in which knowledge, skills and competence are used.

Workplace Context-Complexity Protocol
The Workplace Contextualization described in preceding paragraphs, represents an extensive range of parameters with which to differentiate between jobs, regardless of the level of complicatedness of their related sets of knowledge skills and competence. The unique nature of each job may be reflected by the extent to which these parameters are present in the job specification and profile. That these workplace characteristics shaped the context in which relevant knowledge was observed to have been applied, inspired the authors to develop an appropriate framework to capture the essence of the workplace namely a Workplace Context-Complexity Protocol, to enable the context in which knowledge, skills and competence used in the workplace to be more fully reported.

Protocol Structure
Each of the main context headings viz., Accountability, Clarity, Familiarity, Stressors and Volatility, and their attendant properties, is scaled and described across 5 transition states, and assigned a two-step scoring range to permit interpretation toward the lower or upper end of the scale. For example, the Volatility property, Predictability, may be scored at 5 or 6 to indicate that a job may feature moderate unpredictability that is more than the lower adjacent category (4) but somewhat less than would justify the next higher category (7), i.e. mainly unpredictable. This scoring system recognizes that there is no empirical scale to measure these things yet, and that the boundaries are not sharp and clear cut. Nevertheless, guided by the evidence available and by working through each heading and sub-heading in turn, it is possible to produce a detailed profile of the workplace context. In this way, the Workplace Contextualisation of the relevant knowledge can be used as a protocol for profiling the Context-Complexity of a workplace. The idea is that it is possible to capture the complex circumstances in which fairly routine knowledge skills and competence are used in many workplaces. The possibility that an individual may deny their range of skills, or dismiss it as commonsense, argues in favour of a mechanism that is capable of making them more visible and accounted for more fully. The structure and application of the National Framework of Qualifications in Ireland (NFQ)(QQI, 2012) and its alignment with formally established complicatedness of mathematics at different levels, for example, is reported elsewhere (Keogh, Maguire, & O'Donoghue, 2010). In addition, the maintenance of such a document would serve as a useful guide for mentor-mentee activity, by which realistic targets could be agreed, monitored and achieved, taking into account a more holistic view of the relevant theory in encounter with work-practice know-how.

Work Readiness - Implications for curriculum & work-placement
Typically, students acquire their sets of formal knowledge, skills and competence in the classroom, determined by curriculum and assessed by reference to expected learning outcomes. A small minority are provided with

the opportunity of work-experience, with the expectation of unproblematic 'transfer' of knowledge and skills to the world of work. The extent to which this activity meets its purpose is determined by an assessment of a reflective diary, if at all. The depth of the potential value of work experience can be undermined by the student's inability to seize the opportunity for want of a methodology to optimise it. Similarly, potential hosts of work-placees may be reluctant to participate in a work-placement scheme because of the implied burden of induction and mentoring and without a guiding framework.

Graduate success in the workplace could be underpinned by a methodology that guides formative reflection and develops the ability to evaluate work experiences, both actual and vicarious, within a framework that captures, recognises and reinforces depth of tacit learning. This approach may help create a solid foundation for long-term employability, enable the realisation of 21st Century Graduate attributes and presage their formal recognition, at home and beyond, in the fullest sense.

References

DCU. (2012). Generation 21: Shaping Graduates for life and work in the 21st century. http://www.dcu.ie/graduate_attributes/brochure_web.pdf: Dublin City University.

DIT. (2014). DIT Graduate Attributes: Enhancing student employability. Retrieved 29 01 2015, 2015

Engeström, Y. (2001). Expansive Learning at Work: toward an activity theoretical reconceptualization. *Journal of Education and Work, 14*(1), 1-24. doi: 10.1080'13639080020028747

Engeström, Y., & Kerosuo, H. (2003). Boundary crossing and learning in creation of new work practice. *Journal of Workplace Learning, 15*(7/8), 345-351. doi: 10.1108/13665620310504837

Keogh, J., Maguire, T., & O'Donoghue, J. (2010). *Looking at the Workplace through Mathematical Eyes - Problems & Solutions.* Paper presented at the 17th International Conference of Adults learning mathematics - A Research Forum Maths at Work - mathematics in a changing World., Oslo, Norway.

Keogh, J., Maguire, T., & O'Donoghue, J. (2012). *A Workplace Contextualisation of Mathematics:*

Visible, Distinguishable and Meaningful Mathematics in Complex Contexts. Paper presented at the 2012 Adults Learning Mathematics - A Research Forum. 19th International Conference (ALM19). Synergy - working together to achieve more than the sum of the parts. Te-Piringa - Má pango, má whero, ka oti, Auckland.

Panicucci, J. (2007). Cornerstones in Adventure Education. In D. P. Prouty, J.; Collinson, R. (Ed.), *Adventure Education: Theory and Applications: Project Adventure* (pp. 15). United Kingdom: Human Kinetics.

QQI. (2012). National Framework of Qualifications. Retrieved 2012, 2012, from http://www.nfq.ie/nfq/en/

UL. (2013). Our Graduate Attributes: Learn more, Live more, Be more. Retrieved 29 01 2015, 2015

White, A. (2009). *From Comfort Zone to Performance Management.* Belgium: White and MacLean Publishing.