Investigating Work-based Learning Influences, Outcomes and Sustainability: A Conceptual Model

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Due to policy changes across Europe, work-based learning pedagogies are on the increase in Higher Education programmes. This paper discusses the development of a theoretical framework and conceptual model used to underpin an investigation of work-based learning in postgraduate nurse education. An original conceptual model for analyzing the influences and outcomes of work-based learning and studying these concerns from a social learning theory perspective is presented. The model is based on the assumption that individuals learn within and across communities of practice, yet also recognizes the duality of individual and social contributions required for successful work-based learning.

The research aimed to explore how different cultural tools and processes, in addition to social and personal contributions, influenced and sustained outcomes during and following work-based learning. A qualitative case study was employed to investigate the experiences and perceptions of WBL students and those in support roles, using interviews and documentary analysis. Four main categories of data emerged from the thematic analysis: navigating workplace cultures and contexts; learning within and across practices; practitioner trajectories and transformations; and practice transformations.The findings support the conceptual model proposed in this paper as a means of investigating, understanding and promoting discourse concerning the interrelated influences and outcomes of WBL in differing contexts.

Keywords: Work-based learning, higher education, nursing, conceptual model, cultural historical activity theory, communities/landscapes of practice theory.

Introduction

Work-based learning (WBL) in Higher Education is a complex system of learning for self, workplace and university level credit that involves tripartite relationships between learners, employers and academic settings. Due to policy changes across Europe, WBL pedagogies and practices are on the increase in Higher Education programmes (Nottingham, 2016).

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Seen either as a distinct 'mode' or disciplinary 'field' of practice, WBL in Higher Education differs from the more traditional university based programmes that focus mainly on the students' attainment of academic credit (Costley & Armsby, 2007). An emphasis on the learners' workplace and practice is evident in the many pedagogical models and interpretations of WBL in Higher Education (Manley *et al.,* 2009). Primarily situated in the workplace, learners undertaking WBL programmes apply the elements of their professional role and activities to academic study within University level programmes (Nottingham, 2016). The tripartite relationship between the learner (employee), their employer and the university for negotiating and supporting learning, in consideration of both learner and organizational developmental needs, is a significant feature of WBL (Basit *et al.,* 2015; Manley *et al*., 2009). Consequently, the employer and the workplace play an important role in learning, in addition to the university and learner (Critten & Moteleb, 2007; Basit *et al.,* 2015), thus contrasting with the previous emphasis on learners and their relationship with the university alone. WBL is 'multi-modal and complex' as it is influenced by multiple sociocultural contexts, boundaries and people (Billet & Choy, 2013: 273). Therefore a multi-faceted approach to furthering understanding of factors that influence WBL experiences and outcomes, for learners and their employers, is required.

In health care contexts WBL has been argued as a means of continued professional development that transforms practitioners and practice (Manley *et al.,* 2009). The research presented in this paper aimed to explore trajectories of change (in participants and practice) during and following WBL whilst asking 'how' the different cultural tools and processes situated within the WBL programme, in addition to social and personal contributions, influenced and sustained outcomes. Positioned within an interpretivist paradigm, a qualitative case study design was employed to investigate one WBL postgraduate nurse education programme, in Ireland. This paper discusses the development and application of the theoretical framework and conceptual model underpinning the research. A review of key ideas and concepts from sociocultural theory, cultural historical activity theory (CHAT), communities/landscapes of practice theory is presented and their importance for understanding and positioning research on WBL discussed. Specific concepts and areas of analysis used to explore WBL influences and outcomes are integrated within a conceptual

model. The research methods and findings are described, followed by a discussion of the findings related to the conceptual model and its implications for practice.

Theoretical Perspectives

The purpose of this paper is to enable researchers and academics to further understand and investigate the complexities of WBL in Higher Education though a sociocultural lens. The sociocultural theorist considers the broader social context and systems in which learning takes place and how learners develop based on participation in culturally situated activities (Scott & Palincsar, 2013). It is from this position that the theoretical framework and conceptual model underpinning this research was developed.

Sociocultural Theory

Vygotsky, in his work in the 1920's claimed that learning and human development more broadly, occurred within a social world and therefore must be examined on a multidimensional level that takes account of the individual and the social context (Vygotsky, 1978). He argued that development of mind and cognition occurred on two planes; externally first and then internally and was always mediated through the use of tools such as language or signs (Vygotsky, 1978). This sociocultural perspective on mind and cognition asserts that individual development and higher mental functioning originate from social interaction with others (Scott and Palincsar, 2013).

Mediation is one of the most important concepts in sociocultural theory (Wertsch, 2007). Mediation is considered an umbrella term that encompasses the different ways in which material tools, psychological tools and other people mediate human mental processes (Guerrero Nieto, 2007). Of these mediational tools, Vygotsky claimed speech and social interaction to be the most important mediator of psychological processes (Kozulin, 1998). This links to his assertion that individual mental functioning develops first externally between people on the interpsychological plane, then second internally on the intrapsychological plane (Vygotsky, 1978). Consequently, mediation is seen in terms of the critical role individuals play in mediating the learning of others as the 'human mediator', and the role of tools and signs as 'symbolic mediators' (Kozulin, 2003: 18). Given the multiple 'human' and 'symbolic' mediators at play, the types of tools, structures and mediational

means employed in WBL, mediation is a key concept and important area of analysis for researchers.

Vygotsky also emphasized the importance of the environment on learning, arguing that it was not the material qualities of a situation, but how it was experienced or interpreted by an individual that was interrelated to their development (Vygotsky, 1994). Similarly context can be viewed in terms of the immediate context as the task and content of learning within a specific physical and relational environment and the larger contexts of social, historical and cultural settings in which the interaction takes place (Latucca, 2002). Typically, culture refers to the ideas, customs, and social behaviour of a particular people or society. Individuals are represented within many cultures such of those surrounding work, education and family contexts. This plural notion of culture, indicating that an individual is not represented within one but many, is relevant in considering the differing contexts and cultures surrounding those who participate in programmes of WBL. The interplay between workplace 'affordances' (learning opportunities afforded to individuals) and 'constraints' (Wertsch, 1998: 45) and how learning is influenced by these are important areas for analysis.

Central to understanding human development from a sociocultural perspective is the idea that culture is embedded in and represented through tools and discourses; 'cultural tools' as mediational means. Tool and artifact are often used synonymously however Cole (1996) sees tool (both physical and psychological) as a subcategory of artifact which represents a wider range of cultural and historical embodiments. This wider interpretation of culture through the concept of 'artifact' as suggested by Cole (1996) is useful in exploring how behaviours, interactions, and histories of groups influence individual learning through tools and discourse as mediational means. An analysis which takes into account the interplay of sociocultural factors and the individual (Palincsar, 1998), is important in understanding WBL. These key ideas originating from Vygotsky's sociocultural theory are seen in the evolving generations of CHAT.

Cultural Historical Activity Theory

CHAT evolved through three generations (Engeström, 2001) and can be viewed as an ongoing tradition of both sociocultural psychology and activity theory (Edwards, 2005). The concept of mediation and mediational means in addition to activity (and later activity systems), are central to CHAT as the key foci of analysis. Vygotsky's idea of cultural mediation involves a three way relationship of subject, object and mediating artifact which shows how cultural tools mediate actions (Engeström, 2001). The concept of 'object' is understood as the purpose of activity and consequently renders the activity meaningful. The subject (person) achieves their purpose (object) by employing cultural tools or artefacts. However, Leont'ev (1981) argued that the object of activity is not always understood by the different actors in an activity system. Shared understandings of the object are important and if not present tensions and conflicts may arise which in turn can lead to difficulties in negotiating activities and meaning (Timmis, 2013). In investigating the influences of WBL, where projects or learning activities are negotiated within tripartite relationships, this 'shared understanding' is worthy of analytic attention.

Towards a second generation of CHAT, Engeström (1987) turns the analytic focus toward 'complex interrelations between the individual subject and his or her community' (Engeström, 2001: 134). Engeström recognises that 'object-orientated actions are always explicitly, or implicitly, characterised by ambiguity, surprise, interpretation, sense making, and potential for change' (2001: 134). Where tensions and contradictions between elements of the activity system exist, interpretation and meaning making is not always aligned by all actors. This idea relates to a key concept of 'multi-voicedness' of systems, recognising the multiple views, traditions and interests of a community (Engeström, 2001: 136-137). Furthermore, activity systems change and transform over time and concepts 'historicity' and the possibility of 'expansive transformation' are central principles of CHAT; meaning that they can only be understood against 'their own history' and undergo cycles of change (Engeström 2001: 137).

In a third generation of CHAT, the focus of analysis moves to networks of interacting activity systems with the possibility of jointly shared objects, transitions and reorganization within and between activity systems (Engeström, 2009). Greater attention is paid to the ways in which people have to work and move across boundaries between activity systems; such

boundary crossing requiring negotiation of activity and jointly shared meaning of the object (Engeström, 2001). Furthermore, individual subjectivity, agency and relationality become key considerations (Engeström, 2001). The relational inter-dependence between personal agency, subjectivity and social factors are important in WBL (Billet, 2011). For practitioners who are required to work across organisational boundaries, strong forms of agency are essential as they need to recognise and access the resources that others bring to the object (Edwards, 2005). This relational agency, 'a capacity to offer support and to ask for support from others' (Edwards, 2005: 168) is a useful concept in highlighting an important area of analysis. Relational agency shifts the focus from the system to the impact of those who engage in joint action between and across systems (Edwards, 2005).

Key ideas and concepts that have evolved through three generations of CHAT, such as community, boundary crossing, agency, culture, history, multi-voicedness and transformation, are beneficial in furthering understandings of the myriad of factors influencing WBL experiences and outcomes. These important areas for analytic attention are linked to similar theories of communities/landscapes of practice.

Communities and Landscapes of Practice

In his work on communities of practice, Wenger (1998) claims that we learn and become who we are as a result of our engagement in social practice. The community of practice concept is underpinned by four main components of social learning: meaning (learning as experience); community (learning as belonging); identity (learning as becoming); and practice (learning as doing) (Wenger, 1998). The integration of these concepts provides the conceptual framework of a 'community of practice' within which to analyse 'social participation as a process of learning and knowing' (Wenger, 1998: 4).

Participation in culturally valued collaborative practices, that produces something useful, motivates individuals to learn (Lave & Wenger, 1991). Wenger (1998) employs the concepts of participation and reification in theorising meaningful learning. Participation is an active process of taking part in something, of connection with others and action. Reification refers to engagement as productive, in that experience is made into a thing; a concrete object such as a document or tool (Wenger, 1998). Situated in context, meaningful learning is

essentially a social activity of engagement where skills are developed in practice and person identities are produced and transformed (Lave & Wenger, 2005). Wenger (1998) identifies three modes of belonging: alignment, a process of coordination of own activities so they are aligned with the community; engagement with others in the social world and developing trajectory; and imagination whereby the individual visualizes their own position within the community and imagines their future. In exploring learner trajectories and the initial and longer term (sustainable) outcomes of WBL, concepts of alignment, engagement and imagination provide important ways of looking at the processes and tools that mediate learning. By analyzing in what ways WBL promotes participation and reification and enables trajectories of learning towards personal and professional identity development through alignment, engagement and imagination within and across communities in practice, a range of influences and outcomes can be investigated.

The notion of multiple communities as a landscape of practice is useful in the investigation of WBL, as inherent in this concept is the idea that boundary crossing between communities has the potential for rich insightful learning and innovation (Engeström, 2001; Wenger-Trayner & Wenger–Trayner, 2015a). Whilst active experience and engagement within a community of practice is important with regard the notion of practitioners developing and maintaining competence (Wenger, 1998), learning in a landscape of practice enables practitioners to be knowledgeable about a multiplicity of related practices (Wenger-Trayner & Wenger-Trayner, 2015a). It is the connection with a multiplicity of practices across the landscape that helps develop knowledgeability; that is the relationships people build across the landscape to be knowledgeable about other practices and relevance to their own (Wenger-Trayner & Wenger-Trayner, 2015a). This suggests that in addition to developing competence within a single community of practice, knowledgeability would be an important outcome of WBL if professionals are to develop and sustain relationships across boundaries of practice.

Boundary objects and brokering are two types of connections that link communities of practice (Wenger-Trayner & Wenger-Trayner, 2015a). Boundary objects can be considered the products of reification such as documents and other artefacts around which communities are interconnected. For example, the tools and processes within a WBL

framework such as learning contracts can be seen as the boundary object that connects academic and practice communities. Whereas brokering refers to activities of persons on the periphery of various communities, that provide connections between them and consequently introduce practices across them (Wenger, 1998).

Whilst Wenger (1998) argues that learning and identity is associated with individual trajectories across landscapes of practices. Wenger-Trayner and Wenger-Trayner (2015a: 15) further stress that the 'landscape is political' and the power dynamics have a role to play with competing voices and claims to knowledge. Wenger-Trayner and Wenger-Trayner (2015a: 17-18) claim that 'crossing boundaries, boundary encounters and boundary partnerships are necessary for the integration of a landscape of practice'. However, boundaries can also be areas of confusion, conflict and misunderstandings as communities hold different perspectives, values and interests. Engeström's (2001) concepts of 'multi-voicedness' and 'contradictions' (as principles of CHAT) come to the fore in Wenger-Trayner and Wenger-Trayners' (2015a) interpretation of boundary crossing as both a source of challenge and innovation. Yet, Wenger-Trayner and Wenger-Trayner (2015b: 108) claim that 'meaningful engagement across boundaries is transformative' of both practice and identity. The landscape of practices concept and the role of 'brokers' and 'boundary objects' can help in furthering understandings of what occurs at the peripheries and across boundaries of interconnected communities of practice. Furthermore, they can help in analysing the tools and partnerships necessary for boundary encounters and successful WBL.

Development of a Conceptual Model of WBL

The theories discussed in this paper emphasise social and cultural contributions to individual cognition, contrasting with psychological explanations that focus on the person (Billet, 2011). Both activity theory and communities of practice can provide useful frameworks for analyzing learning at work (Fuller *et al.*, 2005). Although they diverge in areas and converge in others it is the key concepts that span some of these historical theoretical developments that are useful in framing a study of WBL that investigates both influences and outcomes. Current thinking on WBL recognises the relational interdependence of social contributions and individual agency required for learning at work (Billet, 2011). Whilst Engeström (2001) recognises the importance of agency within CHAT, Wenger's (1998) communities of practice

theory appears to pay little attention to how individual characteristics and traits influence learning which leaves a gap in this analytic framework. The inclusion of the concepts subjectivity, self and agency in a conceptual framework means the efforts of the individual, their subjectivities and degree of interest are identified as factors that influence learning through and for work (Bandura, 2001; Billet, 2011). Agency concerns the intention to 'make things happen by ones actions' and 'embodies the endowments, belief systems, self-regulatory capabilities and distributed structures through which personal influence is exercised' (Bandura, 2001: 2). Whereas relational agency is concerned with the ability to offer support and/or accept support from others (Edwards, 2005). With the addition of these concepts to the theoretical framework, both social and personal influences are paid analytical attention.

Figure 1 depicts the conceptual model arising from the theoretical framework and key concepts discussed within this paper.

Figure 1: A Conceptual Model for Investigating Work-based Learning in Higher Education

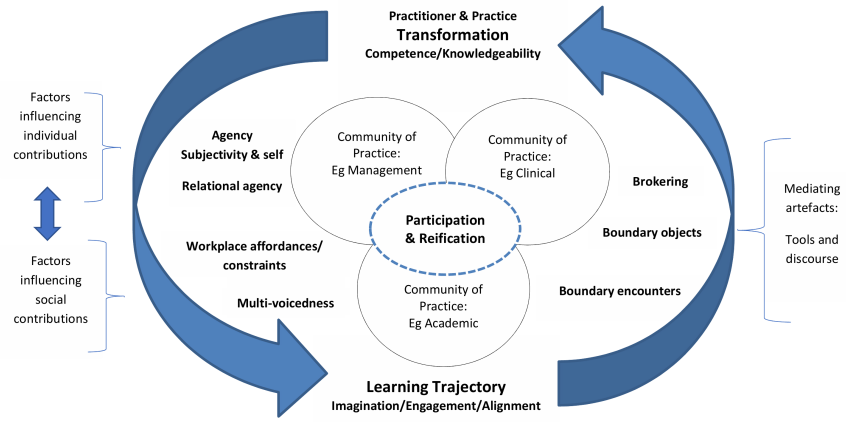

Figure 1: A Conceptual Model for Investigating WBL in Higher Education

The model is based on the assumption that individuals learn within and across communities of practice (Wenger, 1998; Wenger-Trayner & Wenger-Trayner, 2015a). Each community of

practice that the learner may engage with through WBL is represented by overlapping circles in the center of the model, thus signifying the landscape of practice. Such communities of practice could include for example the learner's clinical practice community; related practice areas/communities with the organisation such as management; and the academic community (peers, lecturers). Participation and reification are recognised as central to leaning within and at the boundaries of communities of practice whereby individuals engage in meaningful activity with the aim of producing something useful (Wenger, 1998).

The duality of individual and social contributions required for successful WBL are represented on the left of the model, thus indicating these interrelated concepts as factors influencing WBL experiences and outcomes. Agency, self and subjectivity (Bandura, 2001; Billet, 2011) concern the role of the individual in learning; their personal traits and intentions as influences on engagement and outcomes of WBL. The influence of workplace cultures on WBL is considered within the concepts of workplace affordances and constraints (Billet, 2011; Wertsch, 1998). In addition, multi-voicedness recognises the multiple views, traditions and interests (from learner or support perspectives) and the potential for tensions and contradictions influencing activity (Engeström, 2001), central to participation and reification in communities of practice (Wenger, 1998). With the inclusion of these concepts, the interplay of individual and sociocultural factors that influence WBL are accounted for in the model.

On the right side of the model attention is drawn to how learning is mediated and scaffolded through cultural tools and discourse. These sociocultural influences on WBL are understood using the key concepts of mediating artifacts which include people and cultural tools as mediational means (Kozulin, 2003). Boundary objects, boundary encounters and brokers represent the different mediational tools and discourse experienced by work-based learners at the boundaries of communities (Engeström, 2001; Wenger, 1998; Wenger-Trayner & Wenger-Trayner, 2015a).

The cyclical nature of the model reflects trajectories of change and sustainable outcomes achieved through WBL. The transformation of practitioners and their practice is understood

through the remaking of cultural tools for their community (Billet, 2011) and the ensuring development of competence and knowledgeability (Wenger-Trayner & Wenger-Trayner, 2015a). This engagement, and ensuing learning trajectory and identity development of individuals, is believed to be influenced by how learners imagine their future and align self with community goals (Wenger, 1998). Consequently, the role of imagination, engagement and alignment are recognised as influences on learning trajectory.

The Research Approach and Methods

Developing a theoretical framework is an essential task of designing and conducting research. The ontological and epistemological positioning of the researcher, the methodological approach and the theoretical lens though which to situate questions and interpret findings are key considerations. The conceptual model (Figure 1) was used as a theoretical lens to underpin this qualitative case study of WBL influences and outcomes. The investigation was situated within one postgraduate nurse education programme in Ireland, of which I was the course leader.

The case

The 'case' in this study consists of the interrelated parts of the WBL programme: the Postgraduate Diploma in Nursing curriculum; the students on the programme; and those involved in supporting learning (academics supervisors, clinical supervisors and nurse managers). The programme curriculum framework is aligned with Boud's (2001) WBL curriculum elements, outlined in Table 1. The programme ethos supports a dually beneficial approach to learning that aligns practitioner development with practice development for service improvements through negotiated learning activities. Students undertaking the programme are all qualified nurses, working full or part time in clinical settings, who wish to further develop their knowledge, skills and competence within their area of practice. Students are supported through a tripartite system of supervision that includes a clinical supervisor (from their practice setting) and an academic supervisor (a lecturer from the programme). Tripartite meetings are held in the practice area three times per semester with the aim of negotiating and supporting student learning.

Table 1: Postgraduate Diploma in nursing WBL curriculum framework

WBL Curriculum (Boud 2001)	**Postgraduate Diploma in Nursing Curriculum Framework**
Establish work-based learning in the school and clinical practice Address the diverse range of knowledge and skills of students at the outset Locate the outcomes of work-based learning in an academic framework Promoting the development & negotiation of learning activities Encourage critical reflection throughout the programme Support the on-going learning of students in situ Document learning in a form that can be assessed	***Programme Development and Philosophy:*** • Partnership approach throughout between Higher Education Institute and Health Service Organisation • Reflects a transformative work-based model that builds on the potential for learning within the work/practice environment through structured academic and clinical supervision and negotiated practitioner development aligned with practice development opportunities • Process and guidelines for recognition of prior learning (RPL) developed for access to the postgraduate programme • 6 modules, totalling 60 credits at NQAI (2003) level 9 (EQF level 7) ***Teaching/learning/Approaches:*** • Combined work-based learning as a mode of study with college based lectures and seminars • Work-based learning activities negotiated within learning agreements • Additional external (negotiated) clinical placements in centers of excellence to enable competency development within specialist practice. • Reflecting, enquiring and creating underpin academically rigorous learning for professional practice • Individual enquiry and critical reflection supported within supervisory discourse and seminars ***Support Mechanisms/Roles:*** • Clinical Management support and commitment required on application • Academic supervision (AS) and Clinical Supervision (CS) and support provided through tripartite meetings (between AS, CS and student) throughout programme ***Assessment Methods:*** • Theoretical and competency assessment; formative at tripartite meetings; summative at end of each semester • Academic assignments • Portfolio of Evidence • Reflective Learning Log

The participants

In order to explore the influences and outcomes of WBL from multiple perspectives, it was necessary to investigate the views of different stakeholders. Participants in this study included past students who had completed the programme; practitioners in support roles (clinical and academic supervisors); and nurse managers and Directors of Nursing from clinical practice settings. Past students who had completed the programme by 2012 (N = 55) were invited to participate via letter[2]. The temporal aspect of the sample was important in investigating the *sustained* outcomes of WBL (interviews were conducted in 2013). Clinical supervisors, nurse managers and Directors of Nursing involved with the programme were recruited via purposeful sampling. Those who had experience of supporting two or more students over the course of the programme were invited to participate by letter[3]. Academic supervisors were approached informally first by the researcher then recruited via email.

The purposive sampling strategy yielded a heterogeneous composition of participants (N = 21). They included past students of the programme (N = 11) and those acting in support roles (clinical supervisors, academic supervisors and nurse managers) (N = 10). Some participants occupied dual roles at the time of interview; for example some clinical supervisors or nurse managers had previously undertaken the programme. All the participants in the study were qualified nurses. Practitioner participants worked in a variety of clinical settings; mental health; general; community; maternal and rehabilitation. An overview of the demographic and practice related variables of the sample are outlined in Table 2.

[2] Approval to contact students for evaluation and research purposes obtained on programme commencement
[3] Letters sent to work addresses known to researcher as part of professional working partnerships.

Table 2: Participant details

Code	M/F	Years of Experience	Area of Practice	Position	Programme Role
P1	F	>20	Maternal /Child Health	Staff Midwife	Past Student
P2	M	>20	Regional	Director of Nursing	Commissioner
P3	F	12	Education	Lecturer in Mental Health Nursing	Academic Supervisor
P4	F	6	Education	Lecturer in Nursing	Academic Supervisor
P5	F	15	High Dependency	Staff Nurse	Past Student
P6	F	>20	Mental Health	Clinical Nurse Manager	Past Student
P7	M	15	High Dependency	Clinical Nurse Manager	Past Student/ Clinical Supervisor
P8	F	>20	Community Health	Clinical Nurse Specialist	Past Student
P9	F	12	Habilitation/Rehabilitation	Clinical Nurse Specialist	Past Student/ Clinical Supervisor
P10	F	10	Institute of Technology	Lecturer in General Nursing	Academic Supervisor
P11	F	4	Intellectual Disability	Staff Nurse	Past Student
P12	M	12	Education	Lecturer in Mental Health Nursing	Academic Supervisor
P13	F	>20	Maternal/Child Health	Advanced Nurse Practitioner	Clinical Supervisor
P14	F	4	Mental Health	Staff Nurse	Past Student
P15	M	>20	Community Mental Health	Clinical Nurse Specialist	Clinical Supervisor
P16	F	8	Community Mental Health	Staff Nurse	Past Student
P17	F	>20	General Nursing Acute Care	Clinical Nurse Manager	Nurse Manager
P18	F	>20	High Dependency	Staff Nurse	Past Student
P19	M	>20	Mental Health	Director of Nursing	Director of Nursing
P20	F	>20	Community Mental Health	Clinical Nurse Specialist	Past Student/ Clinical Supervisor
P21	F	>20	General Nursing Acute Care	Nurse Manager	Clinical Supervisor/ Nurse Manager

Data collection and analysis

Semi-structured interviews were conducted with all participants (N = 21) at their chosen location, between March and August 2013. They lasted between 30 – 40 minutes and were digitally recorded following permission. Questions explored topics relating to participant role and area of practice; experiences of undertaking (or supporting) WBL; factors they perceived to facilitate or hinder WBL; and outcomes of WBL. Documentary data sources included the reflective learning logs and portfolios of evidence of the past students (n=11). Students completed these assignments during their WBL and submitted on programme completion. Combined, these documents provided student reflections on their learning over the duration of the programme, evidence of competency development, practice development project reports and records of tripartite meetings. In interviewing past students post programme completion, it was conceivable that perceptions could change due to recall ability or the passage of time. Therefore documentary analysis in addition to interviews helped build a picture of WBL influences and outcomes over time for each past student.

Phased data analysis activities were based on an analytic hierarchy (Spencer *et al*., 2003) (see Table 3), to ensure a systematic yet iterative approach, which involved three main stages: (1) thematic analysis (2) process tracing (3) a theoretically informed analysis. Microsoft word (2010) was used to support data management, coding and synthesis. Interview and documentary data (student portfolios and learning logs) underwent thematic analysis. Interviews were transcribed in full, recurring themes identified and then grouped. Memos and notes were used to identify then code initial themes in the analysis of documents. A comparison of documentary and interview data through the development of thematic charts lead to the final categories of themes.

Table 3: Analytic hierarchy adapted from Spencer *et al. (*2003: 212)

Stage of Data Analysis		Activities Undertaken
Data Familiarisation	**CONTINUOUS REFLEXIVITY**	Reading of all interview transcripts Reading of all portfolios and learning logs Reading of interview transcripts whilst listening to audio of interview
Data Management: Interview transcripts and learning logs		Initial identification of recurring themes and key concepts based on research questions and theoretical framework Building of a thematic framework and grouping of smaller themes into main themes Application of coding system to raw data. Clustering of data into themes and subthemes
Portfolios		Identification of learning outcomes attained, competency development, practice improvement examples (based on research question 2) Development of categories of data from portfolios
Descriptive Accounts		Data synthesis and creation of thematic charts relative to participant characteristics and context Review and categorisation of data into themes and subthemes Comprehensive narratives of Individual cases (past students) developed Similarities identified
Explanatory Accounts		Explanations from both implicit and explicit accounts were developed. Links between influences and outcomes identified though causal process tracing Application of theoretical framework Related to other studies

The analytic strategy of process tracing offers a temporal aspect to data analysis and enables links to be ascertained between causes and outcomes (Collier, 2011). Blatter and Haverlands' (2014) methods were applied to individual case analysis of past student participants. Careful examination of documents and interview transcripts enabled the development of a comprehensive story line for each past student. Applying 'smoking gun' and 'confessions' as observational methods (see Table 4.) strengthened descriptive claims and inferences between the influences and outcomes of WBL for each participant.

Table 4: Key aspects of causal-process tracing (Blatter & Haverland, 2014: 7-9)

Causal-Process Tracing		
Emphases	Configurational thinking	Based on assumptions that: social outcomes are the result of a combination of causal factors; there are divergent pathways to similar outcomes (equifinality); and the effects of the same 'causal factor' can be different in different contexts and combinations (causal heterogeneity).
	Causal mechanisms	Configurative entity that combines different types of social mechanisms
	Temporality	Time and temporality play a major role in causal process tracing. Configurational thinking with temporality complements qualitative comparative analysis
Types of observations	Comprehensive story line	Narrative style of presenting relevant causal conditions, major sequences of process and critical moments that shape the process
	Smoking gun observations	Connected to other observations, shows the temporal and special proximity of causes and effects (not to test hypothesis) Refers to the temporal closeness between observations pointing to a specific cause and others that provide evidence about consequences of the cause
	Confessions	Careful examination of the contexts in which actors provide information about their perceptions, motivations and anticipations. An awareness of typical biases with respect to motivations, in interpreting statements of actors in specific contexts.

The final stage of data analysis involved application of the theoretical framework and conceptual model to synthesised data. All data analysis phases were discussed through the peer debriefing process.

Ethical considerations

Ethical approval was granted by the University and Regional Health Service Ethics Committees prior to data collection. Permission to undertake the study and gain access to clinical staff was granted by the Directors of Nursing where participants worked. Potential

participants were informed fully of the nature and process of the study during the recruitment process (using information sheets) and invited to contact the researcher if they had questions. Written informed consent was obtained prior to data collection activities (interviews and document review) and participants reminded of their right to withdraw from the study at any time. Confidentiality and anonymity of participants (and their employing organisations/practice settings) were protected throughout.

As course leader of the programme I had a professional relationship with the participants and therefore considered carefully the potential impact of being an insider researcher throughout this study. Taking steps to limit bias, I engaged in peer debriefing with an experienced colleague and used a reflective diary. This process of critical reflexivity enabled me to examine decisions made, question any assumptions and ensure conclusions were drawn from research data rather than previous knowledge and experience of the WBL programme.

Findings

Four main categories of data emerged from the thematic analysis:

- Navigating workplace cultures and contexts
- Learning within and across practices
- Practitioner trajectories and transformations
- Practice transformations

Navigating workplace cultures and contexts

This category of data encompassed the role of social and personal agency, colleagues' attitudes and workplace supports as key influences on experiences and outcomes of WBL. Both personal and social expectations of WBL, knowing what to expect, indicated a perceived need for strong personal agency for those undertaking the programme '*you need to be open to it and know what you are getting in to' (P20, Past Student – Interview).* Previous experiences and expectations of postgraduate education were seen to influence both student and clinical supervisors' engagement as *'understanding of what it is all about'* was seen as an issue by student and supervisor participants, suggesting socially derived

individual subjectivities influenced agency (Billet, 2011). The paradigm shift towards WBL challenged practitioners whose previous experience was grounded in instrumental, content driven education as one manager argued the need for '*people who will actually teach specifics of each course' (P17, Nurse Manager).*

Participants revealed the importance of positive attitudes and support at work. The majority of learners were supported by managers and colleagues and were afforded opportunities to engage in WBL. Directors of Nursing recognized their responsibility in creating a learning culture and positive learning environments within their organisations for WBL to thrive.

> *I worked with the multidisciplinary team, they were very supportive and my nurse managers were supportive…always enquiring how I was getting on. I was given the freedom to attend college, to look at and develop practice (P20, Past Student).*

> *You must foster an environment where the student can openly question their own practice, the practice of the unit …and that they can then be supported to identify weaknesses (P2, Director of Nursing).*

However less supportive cultures, negative attitudes from managers and colleagues were experienced by some past learners, as one described her need to '*fight for everything'*. Another described the poor attitudes of staff in her workplace towards her further study. Yet strong personal agency appeared to override workplace constraints for most past students in this study.

The key role of the nurse manager in empowering staff to engage in WBL projects, especially for students in direct care positions, was observed by many. Some learners expressed the need for dedicated time to engage with work-based learning activities; the difficulties of securing time were evident. Workplace affordances were often connected to learner position within the organisation. For some past students in staff nurse roles this influenced their ability to secure time and access to learning opportunities. Whereas learners who were in advanced positions (such as nurse managers or clinical nurse specialists) during the programme were able to negotiate time for project work within their current role, a finding that was also recognised by those in management positions.

> *I think there probably should be a few hours, not even a day, from a work perspective that you could just have dedicated to your bit of research in work (P5, Past Student).*

> *The students who are at the managerial level… they've got the position power to do it. It depends on the relationship between the student and manager at local level (P17, Nurse Manager).*

Learning within and across practices

WBL was experienced by participants across communities of practice spanning clinical (local practice settings and external clinical placements); managerial (management groups within own organisation or allied professional organisations) and educational settings (class seminars and enquiry groups). WBL across this landscape of practice involved partnership working, boundary encounters and the reciprocity of theory and practice, which enabled the scaffolding of learning. Partnership working through tripartite meetings between academic and clinical communities of practice (situated within the curriculum framework), provided the opportunity for learners, academics and clinical supervisors to negotiate meaning surrounding WBL processes and activities. These meetings were seen as productive and supportive for the majority of participants.

> *I had a clinical supervisor and an academic supervisor and it was great to have both of them (at the meeting) as they were coming from different perspectives… bashing out an issue. It was great. (P5, Past Student).*

Negotiating learning through these tripartite partnerships was significant in aligning learner development needs with practice or service requirements, thus promoting the development of community tools and resources.

> *When the students are looking for an area of enquiry we usually come up with something there is a problem with rather than going off and doing something that is very abstract. It covers both college work and our service problem, which would benefit the patient (P15, Clinical Supervisor).*

However, boundaries between different communities of practice (academic and clinical) were areas of conflict and misunderstanding on occasions, due to the different perspectives and interests of each. One academic supervisor reported students being under pressure at times to achieve a multitude of service improvements highlighting their key role in negotiating student projects that were in the first instance related to student learning needs.

> *It's also about working with the students and making sure that there isn't a conflict between the student and the clinical person as well……saying 'while I appreciate this is what you might want as a clinical supervisor this is what the student also has to achieve' (P10, Academic Supervisor).*

The role analysis and competency development plans were experienced as significant boundary objects through which the learners negotiated and planned their learning activities. Through the completion of these, learners were able to reflect on their current role and imagine their future role. These activities in addition to partnership working (tripartite meetings) supported the scaffolding of WBL and outlined learner intentionality with regard the kinds of work-based learning activities they would engage in.

> *The role analysis was a very good way to start any course so you can see what is going to be useful for yourself and what is going to be applicable (P7, Past Student).*

> *My first strategy in developing this competency was to search the literature to ascertain best practice in relation to evaluation of antenatal education. I didn't know where to start. We discussed this in detail deciding search terms and peer reviewed journals. This meeting really helped me to focus on how to commence developing this competency (P1, Past Student – Learning Log Entry).*

Findings indicated a reciprocal relationship between theory and practice. Through WBL activities, theory was used to inform practice and practice enabled an understanding of theory. Participants described 'eureka moments' highlighting the role engagement in social practice has in illuminating understandings of theory and the value this has for future practice.

> *It's one thing reading about it but when you come back here it makes more sense ….. you're going 'oh right that's how it is supposed to be done, that's what that meant' (P14, Past Student)*

Practitioner trajectories and transformations

Practitioner trajectories and transformations included developing competence; developing relationships; becoming reflexive and being confident. The development of personal and professional identity has been linked to the social context of learning and meaningful participation in practice (Wenger 1998). Past students in this study were engaged on a trajectory of learning that was aligned with their imagined future or negotiated future of role progression. At programme commencement, several nurses were 'acting' in their roles as clinical nurse specialists or clinical nurse managers and were already on such trajectories

in terms of achieving a qualification to support their career pathway. Others were hoping to advance their careers and promotion opportunities by gaining postgraduate qualifications. Several practitioners upon completion of the WBL programme had secured new positions. Although the transition into new posts and/or roles since undertaking the programme appeared to transform learner identities, past students identified with being a transformed practitioner as a consequence of their WBL experiences.

> *I am a different person to what I was. Sometimes I am amazed as to how much I have changed and I still think that the course is the root of that… it made me start thinking in a different way, in a more open way (P6, Past Student).*

Learner trajectories through WBL resulted in competence development, developing relationships and becoming reflexive, confident practitioners. Key areas of practitioner competence development included audit and research; patient/service user advocacy, facilitating education and clinically focused skills related to their specialist clinical practice. The competency development process was underpinned by the student's competency development plan and related to professional role and relevance to practice. The impact of student competency development on practice was observed by a number of participants across a variety of areas; such as the provision of service user education and development of advocacy initiatives.

> *Clinically their level of competency has increased and the benefit is that there is kind of a knock on effect. We would see that, for the service users in mental health. One student in particular took on different aspects of an educational mode, both for the service user and the family (P3, Academic Supervisor).*

Engagement with WBL promoted relationships between practitioners within and across practice and academic settings, many of which were sustained and proved beneficial beyond programme completion. The value placed on developing and sustaining mutual relationships with practitioners outside their immediate community was evident relative to the benefits of sharing knowledge across communities and developing services from both practitioner and academic perspectives.

> *The students had an opportunity to establish relationships with those who were working in a centre of excellence that after this programme ended, they would still have these key people that they could consult at any time (P4, Academic Supervisor).*

> *Two years ago I was involved in a project that was out in renal dialysis. I was in and out of the unit so much that we set up informal links with the consultant and the clinical manager. I felt that went really, really well ….. I was over again this year (P10, Academic Supervisor).*

The process of writing within the learning log throughout the course, completing a portfolio of evidence and engaging in critical discourse stimulated practitioners to develop reflective skills over time. Being no longer happy with the status quo, questioning and challenging knowledge and practice as a result of their WBL experiences, suggested of a trajectory towards reflexive practice.

> *It did change how I practice, it makes you look at things differently and constantly reflect on your own practice and ask yourself how you could do things better (P20, Past Student).*

> *It's like I am looking at stuff, I am reading, I am questioning much more like 'who said that, where did you get the evidence for that then' (P14, Past Student).*

The ability to promote critical reflection through discourse was a skill that academic and clinical supervisors also developed over time through continued engagement with the programme, suggesting they too were on a trajectory of learning.

> *I had the role down better the second time… to question more, 'come on let's think a bit differently… tell me how you feel about this, have you any suggestions about what you think we could do', rather than you giving them the answers (P13, Clinical Supervisor).*

Increased confidence was a prevalent finding related to practitioner engagement with work-based learning. Confidence in practice, in questioning practice and questioning colleagues was evident in past student reflective learning logs and interview data, demonstrating a changed identity for practitioners in that they became 'confident' practitioners. This decision to act differently as opposed to previously complying with managers' directions without query signified a link between confidence and critical reflexivity

> *I suppose just questioning maybe my line managers, well I would have confidence in myself to say 'no that's not ok' (P8, Past Student).*

Practice Transformations

Data within this category related to developing community tools and resources; knowledge sharing; improving patient care; and sustaining practice development. WBL was understood by participants to be mutually beneficial to practitioners and practice. A breadth and depth

of practice development activities were evidenced through interviews and documentary analysis. Engagement in WBL influenced both technical and emancipatory practice development[4] during and following course completion. The amount of projects that were embedded in practice and remained on-going at the time of interview signified the sustained influence of work-based learning in a variety of contexts. Practice transformation occurred through the development of community tools and resources and knowledge sharing, which sometimes translated into direct improvements in patient care. Cultural shifts were perceived by several participants within their organisations, associated with emancipatory practice development, as a result of ongoing engagement with WBL.

The production of community tools and resources included the development of practice guidelines; audit tools; and staff and patient education materials and programmes. Signatures from managers and clinical supervisors indicated the authenticity of the work in practice, as opposed to the possibility of it being purely academic. Findings in learning logs and interviews revealed the sense of accomplishment students felt in implementing changes in practice that ultimately benefited patients and service users.

> *I felt a great sense of achievement when this guideline was implemented into practice as it eliminated admissions for our service users to hospital. Nurses on the ground can change practice with the right knowledge and skills. This has given me the confidence to carry out more research in the area of palliative end of life care and hopefully in the future I can make a difference (P11, Past Student – Learning Log Entry).*

> *That (information booklet) was really needed for some time. It has gone through all the governance and consumer panels. It is going to be in use, indefinitely, on-going with maybe only minor adjustments to it (P20, Past Student/Clinical Supervisor/Nurse Manager).*

WBL students' shared knowledge of best practice with their colleagues as they developed competence in facilitating education. Presentations and workshops often related to new practice guideline implementation, audit or patient care topics. This was evident from education materials and evaluations in past student portfolios, learning logs and participant interviews. Partnership working through the tripartite support system promoted learning

[4] Emancipatory practice development concerns the transformation of the culture and context of care, for improvement purposes (Garbett & McCormack 2004). Technical practice development relates to the development of a specific aspect of practice such as a guideline or policy (DoCH 2010).

between lecturers and practitioners, thus facilitating knowledge exchange and sharing of best practice across the landscape.

> *I took on a project in acute stroke care so in terms of education and training I trained my colleagues in that particular acute care area (P9, Past Student).*

> *I was actually learning from the student …..I learnt nearly as much being a supervisor. I was being a supervisor/student (P12, Academic Supervisor).*

Through the process of participation and reification, negotiated WBL activities enabled past learners to develop competence and produce meaningful tools and resources for their practice communities. In this study the development and implementation of evidence based practice guidelines; the sharing of best practice through staff education sessions; conducting audits for practice improvement; and engaging in advocacy initiatives that involve the service user are a powerful demonstration of the benefits of WBL to both students and their organizations.

Sustained changes in practice were perceived by many of the participants. There were suggestions of cultural shifts within clinical settings as a result of practitioners undertaking WBL and the ensuing promotion of team learning and sharing of best practice.

> *It has an impact on the unit as a whole and things change, culture shifts from a place where we just come do our work and go home, to a place where we can openly discuss ….it makes the environment very open to change (P2, Director of Nursing).*

Entries in learning logs on programme completion often outlined learner intentions to continue their engagement with practice development; many of which were validated in participant interviews post programme completion as practitioners gave examples of new initiatives they were engaged in. However sustained change was not always perceived. The relational interdependence between and social and personal factors as the explanation for practitioners not continuing with practice development activities following completion of their programme was recognised.

> *Once sort of the programme finishes, the innovation, the projects, they seem to fall once the postgrad qualification is then got. I suppose that's also compounded by the environment we currently live in …….opportunities are not as forthcoming in terms of promotion (P21, Clinical Supervisor/Nurse Manager).*

Discussion: Applying the Conceptual Model to the Research Findings

The findings from this study support the conceptual model proposed in this paper as a means of investigating and understanding the interrelated influences and outcomes of WBL. Thematic analysis uncovered four main categories of data: navigating workplace cultures and contexts; learning within and across practices; practitioner trajectories and transformations; and practice transformations. Process tracing of individual past student cases identified the learner trajectories through WBL that are unique to each learner and dependent on the degree of individual and social contributions across the landscape of practice in realising and sustaining WBL outcomes. Learning at, for and through work was found to be a combined endeavour of individual intentionality, agency and engagement with work-based learning opportunities, tools and discourse, in addition to the degree of workplace affordances (or constraints), within and across communities of practice.

Factors Influencing Individual and Social Contributions

An interdependent relationship exists between what is afforded individuals at work and how they choose to engage with work-based learning, thus indicating the duality of social and personal contributions required for success (Billet, 2011). However the efforts of individuals, their subjectivities and degree of motivation to engage in WBL despite challenges and constraints are powerful influences on WBL trajectories. Motivation to pursue and intentionality to learn from opportunities afforded to them was significant for many students in this study (Billet, 2011). It was clear that all students found WBL *'hard work'* all experienced time constraints and pressures associated with the dual role of learner and practitioner (Ramage, 2014). However, learner intentionality to continue on their trajectory despite '*feeling overwhelmed*' at various junctures through the programme was powerfully demonstrated. This was particularly evident for one student who surmounted work-place constraints by independently accessing resources and other people to achieve significant changes in practice. This suggests that learner agency, relational agency, individual contributions and resilience are of paramount importance in managing learning journeys through work and addressing weaknesses in work-place affordances (Billet & Choy 2013).

Mediating artefacts: tools and discourse

The tools and processes situated within the WBL curriculum were significant in promoting engagement and scaffolding learning through and for work for learners in this study. Findings suggest that boundary objects (the role analysis, competency development plan, learning logs) and boundary encounters (tripartite meetings) had a key role in mediating and scaffolding learning. The value of the role analysis in aligning WBL with role relevance and informing the competency development process was evident (Stanley & Simmons, 2011). Tripartite meetings enabled the negotiation of mutually beneficial learning for students and their organisations through discourse underpinned by the role analysis and competency development plans. Although multi-voicedness and competing interests resulted in conflict at times, for most, the multiple viewpoints and interests of clinicians and academics furthered understanding and promoted mutually beneficial engagement at the boundaries of academic and clinical communities of practice. The joint planning of student projects situated in practice enabled the negotiation of meaning between theory and practice, in addition to continued discourse surrounding the process of participation (engagement in practice) and reification (the production of something useful) (Wenger, 1998). However the power dynamics within a community of practice were evident on occasions where students were restricted from engagement with project work as a result of their position within the organisation. The potential role of academic supervisors in brokering WBL experiences and projects for students struggling to manage workplace constraints, is an area requiring further investigation.

Trajectories and transformations

Findings support Wenger-Trayner & Wenger-Trayners' claim that 'meaningful engagement across boundaries is transformative' of both practice and identity (2015: 108); as both personal and professional transformations were evident (Boomer & McCormack, 2010, Ramage, 2014). WBL participants became more confident and competent in their role thus indicating development of professional identity (Booth, 2019). It was the types of activities and social interactions that practitioners participated in that influenced their learning and transformation of self (Billet, 2004) and practice (Billet, 2011). Constant reflection on learning and practice (written and with supervisors) enabled the development of reflexive, proactive practitioners overtime who questioned and challenged practice. Learners

identified as being a '*transformed practitioner'* as a consequence of their WBL experiences. The alignment of competency development with the production of community tools and resources (participation and reification) enabled practitioners to develop 'knowledgeability', the building of relationships across the landscape and knowledge of people and practices related to their own (Wenger-Trayner & Wenger-Trayner, 2015a). Similar to Miller and Volantes' (2019) findings on workplace impact, undertaking projects related to workplace priorities and support from colleagues were considered important for creating and sustaining change through WBL. In this study, practitioner outcomes of knowledgeability and reflexivity (evident through learning log entries), were linked with sustained practice development outcomes, described by participants at the time of interview. This sustained impact also appeared to be a reflection of the practice community, as tools and resources were shared and further developed by the team, or new projects initiated. WBL was found to have a positive influence on learning cultures within organisations and create conditions for change (Boomer & McCormack, 2010; Ramage, 2014).

The relationship between social and individual contributions to WBL was also found to influence the continuation of practice development outcomes beyond course completion. One participant did not implement the tools and resources she developed during the programme, despite outlining her intentionality to do so in her learning log. Findings from her interview suggest that workplace cultures and constraints were a stronger force than her own agency. Whereas another participant faced with similar restrictive workplace cultures, was more successful in implementing and sustaining a number of practice developments beyond course completion, suggesting her agency outweighed workplace constraints. Although individual contributions have the potential to outweigh workplace constraints, conversely workplace constraints can limit the potential for sustained change in practice.

Conclusion and Implications

This paper has provided a discussion and trajectory of key ideas and concepts from sociocultural theory, CHAT, communities/landscapes of practice theory, and their importance for understanding and positioning research on WBL. These progressive theoretical and conceptual frameworks have been used to examine the sociocultural

influences on WBL in relation to the differentiation of sustainable outcomes in this study. The conceptual model offers the researcher a way of thinking about and investigating the influences and outcomes of WBL in Higher Education within their own discipline; be it healthcare, engineering or business for example. It is not a universal explanation of WBL influences and outcomes; it is a preliminary point within which to situate an investigation of WBL and all its complexities. A number of questions are raised: How do individual and social factors influence learner experience and outcomes of WBL? How does individual agency outweigh workplace constraints? How does multi-voiced-ness influence participation and reification within and across communities of practice? How are cultural tools (boundary objects) used at the boundaries of communities; what happens at the boundaries (boundary encounters) and who negotiates learning at the boundaries (brokers)? How do students undertaking a WBL programme, participate in and engage with multiple communities of practice across a landscape of practice? What are the products, reified outputs of their participation? How do work-based learners engage in the remaking of cultural tools and are these sustained? How do work-based learners develop competence and knowledgeability across a landscape of practice? These questions are important in furthering understanding of WBL influences and outcomes in differing contexts.

The model also provides a common language for academics, supervisors and students to broaden the discourse surrounding WBL pedagogy and practices regardless of the mode or disciplinary field such programmes are situated within. A framework that recognises the complex sociocultural influences and interfaces between communities, systems, organizations and individuals is essential in supporting successful WBL programmes. By integrating the model into induction programmes for students and supervisors, increased awareness to these challenges and discussions surrounding potential solutions may prevail. The need to pay attention to both sociocultural and individual factors that influence WBL and the many tools and processes of mediation is emphasized within the model. Promoting understanding and discourse around the multi-modal influences on WBL is critical if sustainable outcomes that are beneficial to learners, their professional role and work contexts are to be realized.

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Pioneering new roles in healthcare: Nursing Associate students' experiences of work-based learning in the United Kingdom

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In order to address urgent workforce considerations and changing demographics, in 2017 the National Health Service in the United Kingdom introduced a new role in healthcare, the Nursing Associate. Education for the new role was delivered by work-based learning in partnership with local universities. This paper reports on a qualitative longitudinal study of a study which explored the experiences of work-based learners enrolled at a university in London. Data was collected in two stages over a six-month period: 17 work-based learners participated in interviews in stage 1 and seven in stage 2. Data was analysed using framework analysis; the framework was derived from a systematic literature review about introducing new roles in healthcare. Results have resonance for work-based learning programmes in healthcare and beyond and included the importance of adequate time for work-based learning; supervision by a skilled clinical educator; stakeholder engagement; a well-defined scope of practice and an appropriate and supportive educational programme. Participants valued the input of experienced qualified staff but appreciated the capacity issues that militated against their progress, as staff were not always able to support them. Participants also identified the necessity to take responsibility for their own learning in clinical practice. University-based learning was valued more highly than learning in practice, suggesting, as has been established elsewhere, that work-based learning opportunities in healthcare can be difficult to identify.

Keywords: work-based learning, healthcare apprenticeships, nursing associate, healthcare workforce

Introduction

The National Health Service (NHS) is one of the biggest employers in the world, and the largest in the United Kingdom with 1.5 million employees (Nuffield Trust, 2019). Workforce shortages are currently the biggest threat to the NHS, with the changing demographics of

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the UK population bringing associated pressure on services (Beech et al 2019). This shortage is most acute in the registered nursing workforce with 41,000 vacancies, representing one in every eight posts (Nursing Times, 2019). In 2017, the Nursing and Midwifery Council (NMC) reported that more nurses and midwives were leaving the register than being admitted (NMC, 2017).

One way of addressing this workforce challenge is the exploration of introducing new roles in healthcare. In the past decade, two reviews, Willis (2015) and Imison et al (2016) highlighted the need for a new role to bridge the gap between health care support workers (HCSWs) and registered nurses (RNs). The recommendations of the two reports were taken forward for implementation by Health Education England, an arms-length government organization, by the introduction of a role that became known as a *Nursing Associate*. The nursing associate role was introduced in 2017 with the overall aim of improving the capacity and capability of the NHS to care for patients. The route to qualification was by work-based learning in partnership with local universities.

The new role was designed to be more flexible than established nursing roles, working across the traditional fields of nursing and throughout the lifespan in hospital, community and home-based services. The role also provided a route to qualification as a registered nurse, and, in order to overcome barriers to education for more mature entrants, was delivered by an apprenticeship model led by employers in partnership with higher education institutions (HEI). The model of delivery was an 80:20 split between work-based learning in clinical practice and university-based education.

The role was introduced at pace. Health Education England announced in July 2016, that the role would be introduced in two stages. One thousand trainee nursing associates (TNAs) were recruited in December 2016 to start in January 2017, with a further 1,000 starting in April 2017 (Coulson 2019). When the first intake commenced their course in 2017 the role was not regulated by the Nursing and Midwifery Council (NMC).

This paper reports a qualitative longitudinal study, which was chosen to track the experiences of students as pioneers on this unregulated course; following their experiences

gave us the opportunity to gain insight into how the course developed and became embedded over time, from the students' perspective.

The longitudinal study was undertaken in a university in the United Kingdom over an eight-month period. Work-based learners on a programme leading to qualification as a nursing associate were interviewed on two occasions. The data from interviews were analysed using framework analysis drawing on the seven recommendations of Halse et al (2018) for introducing new roles in healthcare. This paper reports on the experiences of students in a novel learning situation in relation to the framework provided by Halse et al (2018).

The aims of the study were to establish the experience of work-based learners studying a course leading to qualification in a new role in healthcare and to establish changes over time experienced by the students as the role became established in the NHS.

Background

New roles in healthcare

The introduction of new roles in the NHS was considered by Bridges and Meyer (2007). In the policy context of role expansion, investment and the modernisation of the NHS, Bridges and Meyer (2007) called for increased focus on the intricacies of new roles in healthcare and reflection and review as they are introduced. They also conclude that the more flexible roles are (as in the Nursing Associate role), the more they are likely to change once introduced, and this in turn causes difficulties for regulation. At the time of writing, the United Kingdom along with other countries, is under lockdown due to the COVID-19 pandemic, which struck just one year after the first nursing associates joined the NMC register. Emergency regulatory changes have been applied to established roles, such as in midwifery, radiography, medicine or nursing but have not been extended to the new role, despite its flexibility, and work-based focus during training (NMC 2020). This approach potentially reflects the novelty of the role and stage of embeddedness in clinical practice and raises issues about regulation.

Work-based learning in healthcare

In a systematic review Nevalainen et al (2018, p26) reported three main influences on nurses' experiences of work-based learning: the culture of the work community; the structure, spaces and duties of the nursing workforce; management and interpersonal relationships. Interestingly, the paper reports that lack of management support is the greatest impediment to work-based learning for nurses. The authors describe the double bind of increased need for effectiveness in clinical practice counterbalanced against the professional development needs of nurses.

Additionally, Attenborough et al (2019) report that, despite the richness of learning opportunities in healthcare environments, the identification of these opportunities can be difficult for both students and their supervisors. Threats and opportunities to work-based learning are discussed, with time and capacity militating against learning in most clinical environments. These findings correspond with the view of Eraut (2004), a workplace learning researcher, who discussed learning as being on a 'continuum of formality' (p250), informal or tacit learning being '*largely invisible*' (p249). He discusses the lack of consciousness and recognition of informal learning, describing the characteristics of informal learning as '*implicit, unintended, opportunistic and unstructured learning and the absence of a teacher.*'

Furthermore, Brown (2016) discusses the context of knowledge acquisition; the 'codified knowledge' that comes from academia through books and journals versus the 'situated knowledge' (p186) in clinical practice that dominates work-based learning. Drawing on recontextualization as a theoretical construct for learning as students learn and ultimately put the new knowledge into their own practice, Brown suggests (p188):

> *…the process of recontextualization is a whole body response to learning that changes learners as individuals, as well as the context (workplace) in which they operate and ultimately the knowledge itself.*

Focussing on the experience of medical students, Brown highlights the importance of links between clinical practice and universities; the scaffolding of knowledge; the importance of

learning conversations between staff and students; the utilisation of learning in the workplace and the sharing of practice between the university and clinical areas.

Correspondingly, using a literature-based concept analysis Manley et al (2008) define what distinguishes work-based learning in healthcare and what makes for success. Through undertaking a concept analysis, the authors suggest a definition of work-based learning in healthcare, which includes:

> *The everyday work of health care is the basis for learning, development (including evidence implementation) enquiry and transformation in the workplace (p121).*

The emphasis is on the importance of work-based learning to support the principles of life-long learning and the potential to provide significant benefits for healthcare organisations, while Chapman (2006) reports on work-based learning as a way of improving patient care, one of the aims of the introduction of the nursing associate role. Chapman identifies work-based learning as having '*improved the quality of care*, *increased health promotion, increased access to services, increased patient choice and reduced risk of infection.'* (p41). Work-based learning helped participants to feel '*emotionally engaged' (p43)* with their studies because of the direct link to improved practice.

Additionally, the position of apprentices under the relatively new implementation of the apprenticeship levy is addressed by Booth (2019). Whilst this account is situated in the retail sector, there are similar concerns about the shifting external and political factors that affect work-based learners under the apprenticeship scheme in the United Kingdom. Booth (2019) suggests that perhaps resilience in relation to this context should be part of work-based learning programmes.

The experiences of work-based learning by nursing associate trainees

There are few papers about the experiences of nursing associate trainees due to the newness of the course and role. However, Thurgate (2018) reports on a forerunner of the nursing associate, the assistant practitioner, in a paper about the experiences of those undertaking a work-based programme, recruited from the healthcare assistant (HCA)

workforce. Thurgate identifies that supporting work-based learners in the healthcare context requires different skills to supporting those who are supernumerary such as those studying nursing degrees, and that staff need to understand the difference. Overall this paper identifies the importance of a '*workplace culture which supports, accommodates and learns from the development and implementation of new roles'* (p87).

In two related papers from an early experience study of nursing associate trainees Coghill (2018a; Coghill 2018b) reports on the balance required to be both an employee or 'worker' and a student or 'learner' in clinical practice. The papers recommended raising the profile of the role with staff and patients, clarifying whether the TNAs are learners or workers and assisting managers to identify and enable learning opportunities for TNAs. The issue of protected time for learning is considered worthy of further debate.

Finally, in considering the difficulties of undertaking research in the workplace, Eraut (2004) cites: the lack of visibility of learning; how that learning is viewed, which may be as part of a person's capabilities rather than knowledge actually acquired and put into practice; and the fact that the complexity of knowledge gained in the workplace is difficult to articulate. Although the research described in our paper is about work-based learning and was undertaken at a university rather than in the workplace, Eraut's description of his research in the workplace, both observational and through interviews acknowledges the challenges of investigating the acquisition of knowledge at work.

The research reported in this paper is situated in a specific place and time, an important part of the developing story of the NHS in responding to change. At a time of workforce crisis and demographic change a new role was introduced to enhance patient care. Planning, reports and recommendations abound about introducing a new role in healthcare and the theory and practice of work-based learning. The current research aimed to investigate the experiences of those undertaking the nursing associate course through work-based learning over a period of time, viewed through the lens of a systematic review of existing recommendations about introducing new roles in healthcare (Halse et al, 2018).

There are few studies about the nursing associate role *per se*, but Halse et al's (2018) systematic review was undertaken at the time of the introduction of the new work-based learning course for trainee nursing associates. In their article addressing the challenges of introducing new roles in healthcare, the authors identified seven factors (p35) that contribute to successful implementation. These are: robust workforce planning; well-defined scope of practice; wide consultation and engagement with stakeholders; strong leadership; an education programme that mirrors patient need; adequate resources for work-based learning; and supervision by a skilled clinical educator.

Methods

This is a longitudinal qualitive interview study, to explore the experience of trainee nursing associates over time. Though commonly used in quantitative studies longitudinal methods are relatively unusual in qualitative research (Hermanowicz 2013). The method was chosen acknowledging the newness of the role and course and to enable the researchers to investigate the students' experiences of and responses to being pioneers, part of a specific change to healthcare delivery in the United Kingdom, based on policy. To assess the embeddedness of the role, the data were collected in two stages and two methods were used, group interviews at stage 1 (April 2019) and individual interviews at stage 2 (November 2019). Group interviews offered the opportunity to gather added value from the group dynamics and interaction between students, whilst the individual interviews enabled in depth exploration of the students' personal experiences and the issues raised in the group interviews in greater depth.

Stage 1 of the study was completed in April 2019. Trainee nursing associates (TNAs) studying at a university in the United Kingdom were sent details about the study by e-mail and invited to take part in a group interview. These took place in parallel with objective structured clinical examinations (OSCEs), tests of practical skills in a laboratory environment, which may have encouraged a higher response rate. Informed consent was obtained before data-gathering began. Of the 18 TNAs on the course, all but one agreed to take part, resulting in five interviews with three TNAs and one interview with two. Participants were asked these questions:

- Please describe your experience of work-based learning.
- Please describe what supports your learning in the workplace.
- Please describe your identity as a trainee nursing associate.

Work based learning (WBL) was defined at the start of each interview as 'learning that takes place in the clinical setting and not in the university'. Discussions, which lasted about twenty minutes, were audio-recorded and professionally transcribed.

Stage two of the study was initiated seven months later. All TNAs were invited by e-mail to an individual interview, and seven interviews were carried out though not all who responded were interviewed, due to time commitments of participants. Written informed consent was again obtained. Six interviews were face-to-face, and one by telephone. They were audio-recorded and professionally transcribed.
The individual interviews set out to explore further views expressed in the group interviews. The question asked of interviewees was therefore:

- What do you do to ensure that you have a good learning experience in the workplace?

This was the only question in the topic guide, apart from a number of prompts for amplification.

However, the first TNA interviewed began by emphasising that his second placement was very different from the first, and that staff had been much more supportive. He also emphasised the key role of university staff. The topic guide was therefore expanded to ascertain whether similar experiences were shared by others. The framework analysis used in this study affords this type of adjustment (Srivastava and Thomson 2009). Individual interviews lasted about 15 minutes.

Both data sets were analysed thematically, using the key factors for introducing new roles identified by Halse et al (2018), as a framework for the analysis. Framework analysis was chosen as an instrument to assess the impact of the implementation of the new role on those most directly affected. The analysis procedure followed the seven stages outlined by

Gale (2013), for framework analysis of qualitative data in multidisciplinary health research; namely transcription from audio recording; familiarisation with the data using the transcript; coding; identification of the analytical framework; applying the framework to the data and interpreting the data. Gale (2013) suggests that the framework method is suitable for thematic analysis of text, especially from interviews where lengthy transcriptions have been produced, enabling data to be analysed in context.
Quotations from group interviews are followed by a code denoting the group (G1-G5) from which they emerged, while quotations from individual interviews are identified by codes for individuals (T1-T7).

Ethical approval was obtained from the School of Health Sciences Ethics Committee at City, University of London. SREC reference number: Staff/17-18/07

Results

Data were analysed using the factors established by Halse et al (2018), which are as follows:

- Robust workforce planning;
- Well-defined scope of practice;
- Wide consultation and engagement with stakeholders;
- Strong leadership;
- An education programme that mirrors patient need;
- Adequate resources for work-based learning;
- Supervision by a skilled clinical educator

TNAs provided much more data about some of these factors than others, and virtually none about two factors: strong leadership and robust workforce planning.

Re-ordering the remaining five factors provides a more coherent narrative framework for the results, and minor re-wording captures more exactly the preoccupations of those interviewed. Thus, our themes, expanded and exemplified in the following sections, are:

- Adequate time for work-based learning
- Supervision by a skilled clinical educator
- Engagement with stakeholders

- Well-defined scope of practice
- An appropriate education programme

Adequate time for work-based learning

In each of the stage 1 group interviews, TNAs laid considerable emphasis on the lack of adequate time for learning in the clinical placement. Group discussions typically began by emphasising the lack of learning time and returned to it at least once. There was agreement between members in all groups on this subject.

The participants in this study were all employed as health care assistants (HCAs) and were therefore part of the established clinical team. They reported that this limited their opportunities for 'on the job' learning, as staff generally expected that performing their HCA duties would take precedence over any opportunities to learn.

> *Because we are still counted in the numbers, most of the time you are still doing the HCA job. Even though you see yourself as a student, you're still doing the HCA job (G2).*
>
> *Most of the time … we are doing what we'd do before, so we're not kind of getting more knowledge (G1).*

In particular, it was hard to find time to practise new procedures, which could have serious consequences for trainees.

> *So let's just say like, now we're doing subcutaneous injection. For me to perform it, I need to practise it, and with practice comes perfection. So then, if I don't practice, and now I have to come and do an OSCE, it's going to seem like I'm not learning. But if you're not getting the opportunity to do stuff, you're always going to fail (G2).*

However, in the individual interviews later in the year, TNAs spoke much less about time pressures than previously, and several mentioned that it was now easier to study while in the clinical setting.

> *My mentor, she told me that I don't need to be going, doing work, work, work, work all the time. She said this time, 'Take a little time - I want you to go to the office, sit in there and do a little research (T5).*

Supervision by a skilled clinical educator

TNAs reported in the stage 1 interviews that supervisors were much less available than they would have liked.

> *We don't shadow them, we don't work alongside them… They are too busy doing things (G1).*
>
> *I've only worked with her on two shifts [in six weeks] (G2).*

Just as the pressure of work often impeded trainees from learning, so it often impeded nurses from teaching. TNAs appreciated that it was a question of supervisors' capacity to teach and support them, rather than their unwillingness to do so.

> *You've got some good nurses, they want to teach you. But then, it's just the workload (G2).*

Some participants reported that senior ward staff recognised this problem and arranged extra support.

> *My manager has appointed three people, so it's easier for me. If this person is not there, the other person would be there, and there will always be someone (G4).*

Rather more TNAs reported a lack of support when the supervisor was unavailable, however.

> *You can't get to work with your supervisor all the time, and often you are working with someone who can't or won't help or talk to you (G6).*

Some TNAs had learnt by experience that they had to, and/or were expected to, take responsibility for their own learning.

> *I managed to get some fantastic opportunities by just asking people. Because I found that the vast majority of people, once you ask them and explain that it's a learning experience, they would let you do it (G5).*

Nevertheless, the need to do so reflected, to some degree, the unsupportive behaviour of some staff.

> *You have to put yourself forward. Which I don't mind doing, but sometimes then you just feel like, do I have to? They know that you're studying, they should help you, they should encourage you (G6).*

What TNAs appreciated about the staff who did help was the willingness to explain and to challenge.

> *Some people will actually come and call you, 'I'm going to do drugs, do you want to follow me and I'll teach you one or two things'… She's very demanding, but in a very good way, she's always challenging you, to learn (G1).*

Some also mentioned that other staff, including those from other disciplines, were helpful in supporting their learning.

> *Doctors on my ward, they're like, 'If you need any help, come to me, and then we'll sit down.' They're very helpful (G4).*

In the stage 2 individual interviews, TNAs expanded on the various ways in which staff were helpful.

> *Every single time a nurse would come on shift, 'Right, you're going to do this with me, we're going to do this, we're going to look at care plans, you're going to come with me on an assessment, you can do the notes for this person under my supervision, we'll go over anything you're not fully comfortable with…' I got to observe the doctors, the OTs, the allied mental healthcare professionals when they were doing things like Mental Health Act assessments. Pharmacists came in, secure ambulance crews... I did safety huddles as well (T1).*

Staff also helped TNAS learn practical skills, by demonstration, observation and assessment.

> *I say, 'Please, can I do the dressing while you assess me?'... She'll gladly say yes, and I will do it for them, to see how I'm improving (T7).*

Several spoke of the value of feedback to TNAs about their knowledge and skills.

> *They're quite happy for me to be shadowing them, and they give me feedback at the end of the shift… [they] ask me some questions. For example she asked me, 'So why has this patient developed this kind of pressure ulcer?' Well, I could explain to her, but not in much detail. So she said, 'Your homework for tonight is going to be a little research on this topic' (T5).*

Some TNAs spoke enthusiastically of particular learning situations, and methods of exposing them to different aspects of clinical practice.

> *I constantly manage my own caseload. So, I just take probably two patients, look after them from admission to discharge... My supervisor told me it's the best way to learn, and then I gave it a try. It was fantastic way of learning (T4).*

They especially appreciated when learning was planned, thoughtful and scaffolded.

> *For instance, you're working with a nurse and you're going to do wound care: she would explain the procedure throughout first, call it a dry run if you may, and then she will ask you your opinion about it, then ask you what kind of equipment do you need to carry out that wound care… and if you're confident to do it, she will allow you to do it. If you're not so confident, then she will ask you to just shadow and see what's going on, and then maybe the next time you can do it. Which is good (T6).*

Engagement with stakeholders

Data from the group interviews in stage 1 of the study suggested a widespread lack of engagement with stakeholders at ward level. There were plentiful reports of staff ignorance about the TNA role.

> *Most of the nurses don't even have a clue of what we are doing when we say we are TNAs (G1).*

Given that staff were used to working with those individuals in a non-student capacity, such ignorance made it easy for staff to overlook TNAs' new status as learners.

> *We went from being healthcare assistants to students in a sense. But a lot of the staff still had the mind-set of 'You're a healthcare assistant' (G5).*

On the other hand, most groups reported that once they had begun to wear their uniforms (which were several months late in becoming available), they received more recognition of their status.

> *'Since we've had the uniform it's changed, people look at you differently.' (G2).*

Seven months later, in stage 2 of the study, the individual interviewees agreed that things were much improved and that staff working supporting them in their placements were now much better informed about their role, status and learning needs.

> *Before, it was like people didn't really know about the course, so they didn't know what to expect or what to impart to us. But now… you go for the first day and the nurse will ask you, 'What do you want to achieve from this placement?' (T6).*

> *The managers know what to do more. They know more about the programme and they are very supportive… A few people still struggle with our role and how we fit in on our shifts and all that. But generally, things have improved (T4).*

Indeed, some TNAs reported that latterly, Trust and university staff had raised ward staff's awareness of the TNA role and the need to facilitate learning, suggesting that engagement with stakeholders had belatedly taken place.

Well-defined scope of practice

Those taking part in the stage 1 group interviews reported that, as well as a general ignorance of the TNA role, there was a lack of clarity among staff about which clinical tasks TNAs should or should not be allowed to do.

> *Some of the places don't know what we're allowed to do and what we're not allowed to do (G5).*

A particular problem was that staff were as yet unfamiliar with the Practice Learning Assessment Document (PLAD)**,** the detailed record that requires staff to sign when they are sufficiently assured of a TNA's competence in a specific area of health care.

> *Some don't want to sign one [PLAD] because they say they don't know what they're signing (G2).*

However, TNAs did not report lack of clarity in themselves about the scope of their practice as students, indicating that the problems they encountered were due to lack of disseminated knowledge about the role rather than poor definition.
By the time of the stage 2 individual interviews, some TNAs seemed to be more comfortable with being assertive about their practice.

> *If I'm not comfortable to do things that I am told to do, I tend to not, I just don't do it. And especially if it's something that I'm not trained to do, because at the end of the day it's, patient safety is still my concern (T2).*

An appropriate education programme

As experienced health care workers, TNAs were well-placed to judge the fit between their studies and the needs of patients on their ward. There were no suggestions of any lack of fit.

TNAs expressed great pleasure in how much they were learning and spoke of how they were acquiring the reasons and evidence base for doing what often they had been doing as HCAs.

> *I've been doing healthcare for almost 8 years, so I've got experience. But before, I didn't know the rationale behind certain things, I was just doing it for doing its sake, per se. But now studying and then going back to the ward, I know the rationale for doing things, so it's good (G6).*

There was a strong sense in the group interviews, often made explicit, that far more learning happened in the university than in the clinical setting.
Those interviewed individually also stressed how their university studies complemented and enhanced their placement experience.

> *Whatever I learnt theoretically in the university, it made a big difference in my practical, in my clinical practice and it made me feel empowered. And it made me more professional in dealing with my patients (T2).*

Discussion

The aims of this study were to establish the experience of work-based learners studying a course leading to qualification in a new role in healthcare and to establish changes over time experienced by the students as the role became established in the NHS. The results of the investigation have demonstrated significant areas for development, mapped across the chosen framework.

Adequate time for work-based learning

One of the benefits of conducting a longitudinal study was the possibility of demonstrating change over time. Participants reported an improvement in their access to learning opportunities between stage 1 of the study and stage 2, partly due to qualified staff recognising the need for protected learning time, possibly due to increased awareness of the role and course. This might also have been due to improved recognition of learning opportunities in practice on both the part of the student and the practice staff. Participants at stage 1 of the study compared their experience to student nurses who are supernumerary to the clinical team. However, this issue was less dominant by stage 2 perhaps indicating further embedding of the role and, given that one of the purposes of the

new role was to enhance the multidisciplinary team by easing staff shortages, there could be challenges to achieving protected learning time in practice.

Participants overwhelmingly attributed lack of time to their not having 'supernumerary status'- in other words being part of the workforce or 'counted in the numbers'. In contrast student nurses have supernumerary status and cannot be 'counted in the numbers'.[2] Supernumerary status is protected as a requirement of nurses' regulatory body, the Nursing and Midwifery Council (NMC), which also regulates the nursing associate courses. The NMC does not require nursing associate students to be supernumerary while learning in practice but requires the student to have 'protected learning time', which is not defined by the regulator, and instead determined locally by universities and employers.

Although the participants in this study advocated for their student role to be supernumerary, there is evidence that the supernumerary role contributes to the theory/practice gap in nursing (Allan et al 2011). Supernumerary status may militate against students accessing the hidden curricula, i.e. that knowledge that is hidden in relation to socialisation into the profession, and into clinical practice itself, strongly linked to identity. Allan et al found that because of their supernumerary status nursing students had to negotiate their way into a clinical situation and behave in the way qualified staff expected them to. Participants in our study expressed difficulty in accessing learning in practice, but this was in relation to specific skills acquisition, rather than tacit learning. Furthermore, the authors of this ethnographic study found that mentors and senior nurses did not believe that supernumerary status facilitated learning, due to lack of immersion (Allan et al 2011).

Similarly, McGowan (2006) investigated students' views of supernumerary status and how it worked in practice. One finding was that when poorly implemented supernumerary status detrimentally affected students' confidence. Our participants were all experienced healthcare assistants with years of socialisation into practice; they expressed frustration in

[2] At the time of the study this pertained. At the time of writing however (April 2020) temporary emergency measures had been brought in by the UK government to address the Covid-19 crisis situation in the United Kingdom. This included bringing student nurses in years two and three of their programme into the workforce as student employees, with protected learning time rather than supernumerary status in line with nursing associates. Notably the apprenticeships of many nursing associate trainees have been paused to further enhance the workforce.

not having access to training or education in explicit skills-based knowledge, delivered at work and placed towards the more formal end of Eraut's continuum of formality in learning (Eraut 2004). Thus, they valued the university-based aspects of the programme, feeling that this gave them access to knowledge in a way that was inaccessible in the workplace.

Supervision by a skilled clinical educator

Our participants were often supported by professionals other than nurses to learn, notably doctors, which may reflect the apprenticeship-style of specialist medical training and empathy with the students' position in seeking out support and supervision. Participants acknowledged the pressure educators in practice are under, as described by Moffett et al (2019) in an article about clinical educator well-being. Reynolds et al (2020) suggest a model for creating teachable moments (T-moments) in practice than encourages reflection and maximises learning opportunities, acknowledging the constraints of clinical practice, and the importance of those who facilitate learning being capable of putting themselves in the learners' position. Although there was some evidence of this approach to learning and teaching being implemented in stage 2 of the study this was not always our participants' experience.

The role of clinical educator, mentor or supervisor in the implementation of work-based learning in clinical practice has been demonstrated to be pivotal to learning and strongly linked to the development of professional identity, though in a systematic review Gibson et al (2019) also found that student experience was mixed and this concurs with our findings. A poor experience might, for example, be detrimental to the development of professional identity, and the characteristics of the individual supervisor or assessor in practice along with their capacity (through workload) to be available to the learner are important factors.

Engagement with stakeholders

Lack of awareness of the role and of the TNAs' changed status as learners was an issue for participants in stage one of the study; this mirrors the findings of Thurgate's work with Assistant Practitioners (Thurgate 2018). The rapidity of implementation of the course, and subsequently the introduction of the role, militated against understanding and support for

the students as work-based learners. By stage 2 of the study this had improved, but as pioneers of a new course leading to a new role there were no role models in the workplace. The impact of wearing a uniform on both the TNA and those working with them appeared to be an important part of identity formation, which is identified in different contexts in the literature. Poppe (2013) explores the power of the uniform as an identity-marker and important marker of esteem among paramilitary foresters and rangers in Burkina Faso. Her interviews demonstrate impact on those at the lower end of hierarchies similar to that on participants in this study. Similarly, Desta et al (2015) establish that uniforms can lead to increased confidence and improved performance in nurses. Moreover, the identification of the wearer (as a student, a learner) is important and this was established by our participants. Uniforms in clinical practice are not without controversy though. Derived from nuns' habits and designed for nursing work (dirty work) the Chief Nursing Officer for England spoke out against the outdated images of nurses in uniform (NHS England, 2019), but to denote the difference between a worker and a learner in the workplace uniforms appear to serve a useful purpose. Our longitudinal study captures pre-uniform and post-uniform responses and establishes the significance of uniforms to the participants.

Well-defined scope of practice

In the experience of our participants, scope of practice, or the role of the trainee, was not well established, although there were signs of improvement between stage 1 and stage 2 of the study; participants' perception was that there had been more information about the role available to supervisors and managers. Lack of clarity in scope of practice can impact on the effectiveness of the role (Price et al 2015), though it was not possible to judge how effective the role of nursing associate was at the time of the study. Price et al (2015) investigated the effectiveness of the Assistant Practitioner role in radiography, rather than the work-based learning undertaken by trainees. Nonetheless Price established that a minority of managers had considered the workforce implications of introducing the Associate Practitioner, or the support required. Moreover, scope of practice may be clearly articulated in policy and regulation but without adequate workforce preparation and communication this will not be understood in clinical practice. Indeed, participants noted positive changes over time aligned to increased communication about their role.

An appropriate education programme

There was evidence at both stages of the study that the TNA's appreciated their programme and felt it supported their work-based learning in clinical practice. In particular, the programme provided participants with a rationale for their actions and the evidence base for their interventions and this was strongly supported. TNAs felt that more learning happened at the university than in the practice setting. While this could be due to difficulties in recognising and articulating learning in the workplace (Attenborough et al 2019; Eraut 2004), Tynjälä (2008) suggests the importance of integrating tacit knowledge (from practice) and explicit knowledge (from academia):

> *The development of vocational and professional expertise must be seen as a holistic process in which theory cannot be separated from practice- or practice cannot be separated from theory…..Participating in real life situations is a necessary but not a sufficient condition for the development of high level expertise. Only deep integration of theoretical, practical and self-regulative knowledge creates expertise* (p145).

The TNAs in our study reported integration as suggested by Tynjälä (2008), but their satisfaction with the work-based element of the course, though improved over time, remained low, at least for some participants. How this might influence the effectiveness of students once qualified is currently unknown. It is therefore difficult to comment on the overall appropriateness of the programme apart from the student perspective.

In a study investigating how professional identity is influenced through experiences on a work-based learning programme run through the apprenticeship system Booth (2019) discusses improved self-confidence and belief in participants' capability to carry out their roles as being important factors.

Fit with the framework

Out of Halse et al's (2018) seven categories, five were reflected in both stages of the study. National strategic leadership and robust workforce planning did not resonate with our participants, yet participants' experiences were related to both of these categories, for example robust workforce planning could have addressed the issue of awareness about the

role in practice generally and provided more capacity for support and teaching in clinical areas. The lack of data about these factors is hardly surprising, as these factors operate at national level rather than at ward level, whereas our purpose in this analysis is to consider these factors from the point of view of TNAs on the front-line.

They did, as reported in the results, appreciate the positive involvement of ward managers and other senior ward staff in supporting their learning, but that it is a different sort of leadership from that indicated in Halse et al's (2018) systematic review. Similarly, TNAs in stage 1 of the study had strong views about the lack of supernumerary status and unanimously reported that TNAs themselves had to take responsibility for their learning in clinical settings, as staff were unable or unwilling to do so consistently. This implies that workforce planning had not accounted for the introduction of the new role.

The strong leadership required to embed the role in practice was not necessarily absent, and it is clear that the role was introduced after reviews, stakeholder involvement and policy development. The role was launched by the Minister for Health and was high profile in both professional and national media. However, the national profile and importance of the role was not raised by participants and may reflect the pace of introduction, underpinned by stretching targets. The analysis revealed that the experiences of those most affected by policy change, in this case the TNAs, do support the introduction of the role.

Conclusion and recommendations

Our participants' experiences demonstrate the importance of preparation of the workplace for work-based learning for specific roles, and how these developed over time. As pioneers the TNAs had committed themselves to training for a role which, at the time they were studying, did not exist in actual clinical practice. Despite this, their obvious enthusiasm for learning and their descriptions of how the explicit knowledge gained through the academic component of the course supported their tacit practice knowledge is apparent and endorses the programme and approach to some extent. The TNA's valued skills acquisition above tacit knowledge that they had gained through years of socialisation into healthcare. They appreciated the constraints on educators with competing pressures in practice to teach them due to clinical commitments, but equally felt frustrated that knowledge about their

role was not sufficiently developed to enable qualified staff to support them fully; this improved between stage one and two of the study. Furthermore, stakeholder engagement was necessary to support their developing identity, this was achieved through increased input with educators and provision of a distinctive uniform to give a visual cue about their status. The lack of role models for a new role linked to an understanding of their scope of practice also developed over time and should improve as the role becomes embedded in the workforce. Overall the importance of skilled educators committed to learning, both in clinical practice and in universities was evident in both stages of the study.

A limitation of the study is that both the group interviews in stage 1 and individual interviews in stage 2 were rather short, as TNAs had to fit them in during days at the university, when their timetable was already tight. The stage 1 group interviews were well attended because they were held immediately before or after OSCEs; individual interviews were held during a period allotted to private study, and only seven were achieved (several other TNAs had originally agreed to be interviewed, but they were absent due to illness or family commitments, and did not reply to follow-up e-mails). Those interviewed in stage 2 believed that their improved experience was common to all TNAs, however.
A further limitation is that of any small-scale study of a national phenomenon such as the introduction of a new role. It may be that the clinical settings where our informants were placed were not typical of those elsewhere, either in their initial inability to offer enough support, or their ability to learn fairly quickly how to do so, or both. It is not now possible to replicate the study elsewhere, because inevitably perceptions of and understandings of the role and of TNAs' learning needs will have changed since our research was carried out.

This study does, however, add to the evidence-base about introducing new roles in healthcare, endorsing Halse et al's (2018) findings from the literature existing at the time the role was introduced. This paper demonstrates the impact of an initiative aligned to government policy to increase the clinical workforce on individuals on a work-based learning course, which was introduced at pace. The paper highlights the importance of preparation of the qualified workforce that supports learning in practice. By studying the implementation over time, with increased understanding of the role, we were able to demonstrate the cruciality of this preparation. This is an important contribution to the

evidence-base that informs and influences curriculum design and development in higher education on courses delivered in partnership with employers through work-based learning.

This also suggests important areas for investigation in work-based learning that is delivered in partnership with higher education institutions. Future research could explore the lack of parity of value between university-based learning and the learning from practice as perceived by learners. It would also be useful to hear the perspective of those supporting learning, mapped against the framework, and in particular the role of adequate information-giving in helping qualified staff to understand and carry out their role in supporting learners. More ambitiously (because of the longitudinal nature of the studies), it would be interesting to explore to what extent understanding the rationale of familiar duties, much appreciated by TNAs, enhances the care that TNAs give after training compared with before; and the extent to which their own experiences of being relatively unsupported at the beginning influence their own commitment to and skill at supporting future learners themselves.

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Work-Based Learning in Nigeria's Higher Education: What now?

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Academic work-based learning (WBL) has an over a century-long history in Nigeria. The current WBL programs are the Students' Industrial Work Experience Scheme (SIWES) and the Graduate Internship (GI). They are sponsored by the federal government with the aim to improve employment outcomes. However, there is still a gross mismatch between the skills of graduates and the demands of employers. This study analyzes why the WBL programs in Nigeria have yet to be successful and suggests alternatives. The analysis reveals a dysfunctional job placement process as a primary barrier and suggests consolidating the SIWES and GI into one school-to-work program, based upon the Graduate Employability Skill Development (GESD) model, along with strategies to improve the development, management, and quality assurance of placement. The article concludes by underscoring the integration and effective management of WBL at all levels of education, including continuing education as an important and realistic approach that Nigeria should strive for to attain appreciable development.

Key words: Work-based learning, Nigeria, vocational/technical training, high education, internship.

Introduction and historical background

Higher education (HE) – a.k.a., tertiary education – has been receiving extraordinary attention since the beginning of the 21st century. Much of the global attention is because the growth and development of nations are hinged on the level of education and knowledge of its citizens (Boud et al, 2020; Costley & Boud, 2020). With knowledge production, dissemination, and consumption at the core of economic transformation, HE institutions are envisioned as strategic players in developing human resources (Sall, Lebeau, & Kassimir, 2003). Likewise, work-based learning (WBL) has become a vital element of the educational system around the globe with the recognition of the importance for facilitating economic development (Boud & Solomon, 2001). Countries with HE systems that integrate WBL are better poised to make the transition to a

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knowledge economy.

Today, what is known as WBL in Nigeria began as vocational and technical training. Vocational education (VocEd) or Technical education (TechEd) is the educational process that focuses on individuals' preparation for entrance and progress in occupations or careers. It can take place at the secondary school or higher education (Uwaifo, 2010). Strikingly, VocEd/TechEd in Nigeria dates to 1885 when the colonial Hope Waddell Institute was established in Calabar. However, the real planning of the system was in 1946 when it was given a place in the Ten-Year Plan for Development and Welfare. Before this date, the colonial government's attitude was that the provision of technical education for Nigerians (beyond very limited artisan training for governmental departments) was not important. Up until the early 1940s, technocrats were unable to recommend the establishment of a single training institution. They believed that big trade school or a technical college was wasteful. They reasoned that such school would be expensive to build and equip and require many European and African staff (Osuala, 1976). But eventually, it took root in 1947 when the first indigenous HE institution and Polytechnic, the Yaba Technical Institute (now Yaba College of Technology) was founded. Later on, Nigerian trade schools and polytechnics started developing an array of skill sets that were responsible for some portion of the workforce up to a point. For a while, the Nigerian workforce was viewed as a promising lot comparable to its counterparts in Asia and elsewhere. But with time, employers observed that graduates were lacking practical skills and resolved that the education being received in the institutions was not responsive to the needs for employment (Uvah, 2004). The dependence of industry on technical competencies for operation and maintenance of its resources required a cadre of workers who possessed knowledge of the new technologies that were prevalent at the time in the workplace.

Hence, WBL was formally introduced in the Yaba Technical Institute in 1969 when it attained autonomous status to upgrade the VocEd/TechEd provided to the students. The reference for WBL as integrated into the curriculum in the Yaba College of Technology was industrial training. The students participated in the scheme at the end of the academic year periods and were

sponsored by employers. However, this form of industrial training involving automatic sponsorship by employers was discontinued with the rapid expansion of the HE institutions (Uvah, 2004). Fast-forward to current WBL programs which are sponsored by the federal government as prerequisites for employment. They are the Students' Industrial Work Experience Scheme (SIWES) and the Graduate Internship (GI). The placement of students or graduates of HE for vocational and technical training in work settings is an opportunity to participate in activities relevant to various disciplines and to reflect on the experiences (Obiete, Nwazor, & Vin-Mbah, 2015).

Nigeria's Industrial Training Fund (ITF) set up SIWES to develop employability skills of students (Industrial Training Fund [ITF], 1973). Employability skills are knowledge, skills, and attitudes students need to attain and maintain jobs (Pitan, 2016). On the other hand, the GI is offered as part of control of professional practice in the health fields and administered by two professional bodies. The professional council for the field of medicine is the Medical and Dental Council of Nigeria (MDCN) established in 1963, while that for pharmacy is the Pharmaceutical Council of Nigeria (PCN), established in 1992 (Medical and Dental Council of Nigeria [MDCN], n.d.; Pharmaceutical Council of Nigeria [PCN], n.d.)1.

Studies have demonstrated the academic relevance of the WBL programs and have credited them with improving skills (Adebakin, 2015; ITF & University of Jos, 2011; Oyeniyi, 2012; Ugwueze, 2011). But questions remain why Nigeria's development continues to spin on its wheels despite over a century of investment in this area. Preliminary analysis indicates that despite the long history of integration of WBL in HE institutions in Nigeria, the goals are still far off. There is still a gross mismatch between the skills graduates come out with and the demands of the business world. Specifically, HE curricula have not matched pace with modern skill sets. Consequently, most graduates of Nigerian tertiary institutions are plagued by the inability to get jobs or become self-employed (Obiete et al., 2015).

The purpose of this article is to conduct a fine-grained analysis to illuminate the barriers to progress and strategies to integrate WBL to achieve economic development in Nigeria.

The remaining segments of the paper are four-fold. The first serves as a brief contextualizing appraisal of the tertiary education system. The second section provides a comparative analysis of the two forms of WBL (SIWES and GI). The third suggests a way to implement WBL in tertiary education relative to the needs for increasing employment outcomes and economic development in Nigeria. The conclusion discusses prospects of extending WBL to elementary, secondary, and continuing education in Nigeria.

Appraising the Nigerian tertiary education system

Given the precarious state of many economies in the developing world and a concern that they are likely to "miss the boat" and not benefit from the knowledge economy, HE in Nigeria has been scrutinized like never before (Sall et al., 2003). These efforts are indicative of the place of HE in a nation's life and how it is shaped by global forces. This appraisal aims to shed light on the *status quo* as they relate to national governance in Nigeria and global economic dynamics.

Country Context

It is trite to recount the abundance of Nigeria's resources, both human and natural. For instance, one in every six Africans is a Nigerian, making it Africa's most populous country – the seventh most populous country in the world, and recently, Africa's largest economy. Nigeria's population more than quadrupled from an estimated 42.5 million people at independence in 1960 to an estimated 140 million people in 2016 (Nigerian Embassy website). Among the notable demographics is a significant 'youth bulge' -- more than 60 percent of the country's population is under the age of 24 (WES, Staff, 2017).

The country is also endowed with many natural resources, most prominently the

crude oil, which has been the single largest source of export and growth of the economy since 1970, accounting for more than 90% of exports and 70% of the government revenues (Adedipe, 2004; World Education Services [WES], 2017). The economy has enjoyed some growth based on crude oil production and has achieved some key milestones. For instance, in April of 2014, the country's Gross Domestic Product (GDP) was rebased after 24 years from about US$ 270 billion to US$ 510 billion. Because of this, Nigeria in 2015 surpassed South Africa as Africa's largest economy. This emergence and the projection to be in the top 20 of the world's economies come 2050, are beyond mere symbolisms (Vanguard, 2016). But while GDP is a measure of economic growth, it does not necessarily translate to economic development. Nigeria is the largest African economy, but it ranks low in economic development (Human Development Report Office, 2014). Economic analysts have characterized the coexistence of resources and extreme poverty in Nigeria as a resource curse (Oni, 2013). It does not take much to realize the reason for this. The history of Nigeria's oil wealth is associated with a long list of social vices, such as corruption among government officials, which led to the collapse of basic infrastructure and social services since the early 1980's and has since then hindered investment in all sectors of the economy. The World Bank estimated that 80% of energy revenues in the country benefited only around 1% of the population (Odularu, 2008). Harbison's (1971) analyses of human resource problems in African nations still capture the *status quo* in Nigeria, 46 years after as the educational system, especially HE, is still poorly geared to match development needs.

The educational system in Nigeria comprises the primary, secondary, and tertiary levels. The tertiary level is made up of university and non-university institutions. The university system offers degrees in academic, vocational, and technical areas. The non-university system is composed of polytechnics and colleges of education, which provide technical/vocational and teaching skills, respectively. The federal government bodies tasked with managing the tertiary institutions are the National Board for Technical Education (NBTE) for polytechnics; the National Commission for Colleges of Education (NCCE) for colleges; and the National University

Commission (NUC), for the universities.

University education in Nigeria dates to 1948, when the University College of Ibadan was established as a residential and tutorial college affiliated to the University of London (Okojie, 2008). However, the bragging rights for the first indigenous federal university belongs to the University of Nigeria, Nsukka, which was established at independence, in 1960 (Okojie, 2008). Post-independence, in 1962, the University College of Ibadan attained an autonomous status as a degree awarding institution and following that the number of federal universities had risen to five with the addition of University of Ife, Ahmadu Bello University Zaria, and University of Lagos. Subsequently, the first state universities emerged in 1979 led by the Rivers State University of Science and Technology.

Military Rule and Structural Adjustment

"By 1980, Nigeria had established a well-regarded tertiary education system offering instruction at an international standard in a number of disciplinary areas. The universities of Ibadan and Ahmadu Bello, for example, earned global recognition for their research in tropical health and agriculture, respectively" (Saint, Hartnett, & Strassner, 2004). The University of Nigeria Nsukka excelled in arts, education, and the biomedical sciences. However, this reputation steadily diminished with the fiscal irresponsibility of the government and the IMF-imposed structural adjustment program (SAP) to curb budget deficits.

The institutions were grossly underfunded and mismanaged by the successive military governments during the 1980s and 1990s. In response to social and political pressures, access to tertiary education expanded rapidly despite cuts in the budget. Between 1990 and 1997, the enrollments grew by 79% – even as real value of government allocations for tertiary education declined by 27% (Saint et al., 2004). Attributing the declining quality of education to underfunding and unplanned expansion, a World Bank report on the state of education in Nigeria stated that the last well-trained graduates left the system in the mid-1980s.

Similarly, the SAP had a devastating effect on the educational systems in many other African economies. Numerous scholarly works, including that of the World Bank, provide evidence that the pattern of declining resource allocation to education was a direct result of World Bank/IMF austerity programs. UNESCO's World Education Report analysis of 26 African countries showed an overall decline of 33 percent in public spending per pupil, in the period 1980-1988. In Nigeria, the expenditure on education was as low as 2.7 percent (Geo-Jaja & Magnum, 2003). Also, the SAP had a considerable impact on the civil service—once the main employer of graduates (Sall et al., 2003). The concomitant effect of these policies was the decline in the quality of tertiary education and in the employability of graduates.

Post Structural Adjustment and Democratic Rule

A democratically elected government reemerged in 1999 after 15 years of hiatus. With it came the political will to tackle the nation's tertiary education difficulties (Saint et al., 2004). The government relinquished absolute control over tertiary education (Sall et al., 2003). After an earlier failed attempt, private universities eventually became a reality in 1999 when the first three private universities Babcock, Igbinedion, and Madonna universities were licensed to operate (Akpotu & Akpochafo, 2009).

Since then, Nigeria has continued to see an exponential growth of the tertiary institutions. As the demand for education mounted, private proprietors were quick to respond with a characteristic but peculiar attitude of private sector solution to social needs. Proprietors of these institutions have continued to adopt the private option response, turning it into one of the most profitable sectors of the Nigerian economy (Saint et al., 2004). At the last count, the NBTE recognizes 107 polytechnics and 220 colleges in various specific disciplines. The number of recognized universities has grown to 152, consisting of 40 federal universities, 44 state universities, and 68 private universities as accredited degree-granting institutions (WES, 2017). Thus, Nigeria has not been lacking in establishing institutions; her Achilles' heel has mostly been in the management and ensuring commitment to follow through with quality services.

One fundamental management issue of the institutions is underfunding. Saint et al. (2004) note that Nigeria's budget allocation for education significantly falls short of both regional and international norms. In 2009, what the top three African nations measured in their proportion of gross national product (GNP) spent on education were South Africa (7.9%); Kenya (6.5%); and Malawi (5.4%). But Nigeria was spending 0.76% of her GNP on education (Akpotu & Akpochafu, 2009). While her spending has fluctuated over the years, the levels decreased well below 10% following the oil price-induced fiscal crisis in 2015 (WES, 2017). Even at 10%, the expenditure on education is less than half of the 26% recommended by the UNESCO for economic development (Adeoti, 2015). Due to funding constraints, the institutions lack other resources, including staff, physical facilities, and equipment for quality service delivery (WES, 2017).

The second major issue relates to quality assurance which involves the establishment of standards for licensing and accrediting programs (Okojie, 2008). It is the responsibility of the regulatory agencies, the NUC, NBTE, and NCCE to license and accredit the activities and programs of the institutions. In October of 2017, the Association of Vice Chancellors of Nigerian Universities decried the continuing expansion of the institutions regardless of academic standards and relevance to sustainable development (*This Day*, 2017). The Nigerian National Bureau of Statistics (NBS) estimated that 33 million (23.10%) of Nigerians were unemployed in 2028. The 2017 WES figures showed a 47% unemployment rate among graduates of tertiary institutions with the warning that the situation would get worse and it has gotten worse with the rapid nosedive in crude oil prices. Already, Nigeria's GDP suffered a sharp decline when it dropped from 6.2% in late 2014 to 2.8% in late 2015 (Ikedi & Adewole, 2016). Further slashing of the funding for education was reported including scaling back of 40% of the funding from oil and gas revenues. Not to mention government-induced ever-present strike actions by members of the Academic Staff Union of Universities, derisively referred by some as an "annual festival." The unabated increase in unemployment, particularly of graduates of tertiary institutions, even with the integration of WBL warrants the analysis that follows.

Work-Based Learning Programs in Nigeria

As noted earlier, current WBL programs in Nigerian tertiary institutions are designated as SIWES and GI. The notion of internship is a one-time, short-term job placement and a mutually beneficial relationship between students and employers, in which students acquire skills in exchange for services for an organization (Anderson, 2017). The SIWES is considered an in-school, while GI is an after-school program. Hence, the use of GI highlights the timing of the internship program. The discussion that follows provides some background and a comparative analysis of the programs.

The SIWES is a skills training program. It was initiated in 1973 by the Industrial Training Fund to address the mismatch between the tertiary institution curriculum and the practical skills required for employment in the real world. The objectives of the Scheme include bridging the gap between theory and practice; enhancing contacts for job placement; and improving the involvement of employers in the educational process (ITF, 1973). It started officially with 784 students across 11 universities and polytechnics and participation was limited to engineering and technology specialties. Since then, the number of participants galloped. The program now forms part of the requirement for students enrolled in the fields of engineering, technical, business, applied sciences and arts. The peak of participation in the Scheme was in 2008, when 204 institutions and 210, 390 students participated (Mafe, 2010). The number dipped to 136 institutions and 79,852 students participating in 2017 (Sundiata Post, 2017).

On the other hand, GI is a clinical training for recent graduates in the health fields. It is offered by professional councils as part of the control of practice. Medicine and pharmacy are examples of fields whose graduates participate to obtain full license to practice. The professional council for medicine and dentistry is the Medical and Dental Council of Nigeria (MDCN). The internship for medical doctors is called housemanship, and the medical interns are house officers. The professional council for pharmacy is the Pharmaceutical Council of Nigeria (PCN). The MDCN and PCN are statutory agencies under the Federal Ministry of Health. They are charged with developing the standards and maintenance of registers of persons and premises eligible

to practice (MDCN, n.d.; PCN, n.d.). The councils also issue relevant publications in support of these functions. Funding support for the councils are from internally generated revenue and grants from the federal government.

Organizational Structure

The organizational structure for SIWES consists of four hierarchical levels and multiple stakeholders as follows: (1) federal government and ITF; (2) regulatory agencies of tertiary institutions (i.e., NUC, NBTE, NCCE) and Chief Executives Forum; (3) ITF area offices, employers/industries, and tertiary institutions; and (4) students (Mafe, 2010). The ITF is an agency of the Federal Ministry of Commerce and Industry with the subsidiary mandate for the central management of SIWES. The NUC, NBTE, and NCCE are the regulatory agencies of the tertiary institutions and belong to the Federal Ministry of Education. The Chief Executives Forum comprises of the ITF, NUC, NBTE, NCCE, and the industry leaders. The tertiary institutions and employers/industries are responsible for the operation of SIWES. The institutions are required to establish fully staffed and equipped coordinating units; appoint full-time coordinators; and operate an account for SIWES.

In contrast, the structure of GI is comprised of two hierarchical levels and fewer stakeholders as follows: (1) federal government, professional councils, and NUC, NBTE, and NCCE; and (2) employers/industries and the tertiary institutions. While the coordinating units mediate the relationship between the regulatory agencies of institutions (i.e., NUC, NBTE, and NCCE) and the employers/industries in the operation of the SIWES; the regulatory agencies for practice (i.e., professional councils) work directly with the employers/industries in the operation of GI.

The organizational structure for SIWES apparently is more bureaucratic. Thus, the structure has witnessed lack of quality control, administrative bottlenecks, and unnecessary overhead costs (Mafe, 2010). A leaner organizational structure, in the case of GI seems a logical solution to these operational dysfunctions. Also, there has not been a stable operation of SIWES under

central management by the ITF. The ITF had facilitated the establishment of the Scheme in 1973 and managed it up till 1979; it was fraught with management issues necessitating a takeover by the NUC, NBTE, and NCCE from then on till 1985. But similar concerns continued with this transfer. Hence, the management was reverted to ITF (Mafe, 2010). Despite all the policy reversals, the problem continues. Likewise, the absence of central management for GI led to instability in the operation. Prospective Interns/House Officers Association of Nigeria (PIHAN), an association comprising all graduates of human health sciences had called for the restructuring of the GI training program, and for the creation of an organ of the Federal Ministry of Health solely committed to its smooth functioning (Ekeh, 2016). In an apparent response, the Federal Ministry of Health consummated a plan for the MDCN to centrally manage housemanship as from 2018 (Ogunberu, 2017, as cited in Talbot, 2019). The plan to have the MDCN manage housemanship as a primary role seemed apt to address the operational dysfunctions of GI.

Organizational Functions

The functions of the WBL programs are here broken into placement, orientation, training and supervision, assessment, funding and payment of allowances, and quality assurance and research. Under each of these functions, responsibilities and challenges of stakeholders are discussed. Noted also are consequences of improper implementation of the functions and recommendations.

Placement: Eligible persons for SIWES are students in their penultimate year. The establishments for placement include government agencies and private enterprises. Notably, the coordinating units work with employers to develop job specifications and descriptions to support the placement operations. The SIWES coordinating units in the institutions use the employers list by ITF to place students based on match between the knowledge and skill requirements of their field and the job specifications, and send the master and placement lists to the ITF through the NUC, NBTE, and NCCE for vetting. Students can also initiate placement with employers in their fields of study and in locations they can find living accommodation (ITF, 2016).

Eligible persons for placement in an internship are graduates of human health sciences within two years of award of the degree, and those provisionally registered to practice. The training centers for doctors and pharmacists includes hospitals. The hospitals are approved by the professional councils through a rigorous accreditation process leading to the award of a certificate of registration (MDCN, 2006; PCN, 2009). In terms of the opportunity they afford the interns to observe clinical cases and try out treatment procedures, they are classified as tertiary or secondary. Tertiary level hospitals encompass all teaching hospitals while secondary level hospitals include Federal Medical Centers.

The professional councils provide a list of approved training centers to the graduates or prospective interns during the induction ceremony who then choose places of interest to apply. Thus, it is the responsibility of a graduate seeking an internship position to ensure that the training centers of interest are recognized by the council, and to find out application date, apply, and follow up with the selection procedures (MDCN, 2006; PCN, 2009). Training centers recruit interns by advertising positions; and screening involves reviewing applications, shortlisting of applicants, and administering a written exam and/or interview (Ajemigbitse, Omole, Ezike, & Erhun, 2014; Oshiko, Senbanjo, & Amole, 2009). They also make available suitable accommodation for interns within or near the place of work or provide commensurate allowance where not available (PCN, 2009; MDCN, 2006).

Thus, living accommodation is guaranteed for GI, but not for SIWES. Although placement is facilitated for SIWES participants using less stringent standard for eligibility determination, however, the process offers less autonomy (Mafe, 2010). Okoli (2016) has noted that the timing and duration of placement as mitigating the quality of SIWES. He cited cases where students were promised by their host employers they will be hired, but this offer did not materialize because of the long wait time to become employable. Regarding the duration of placement, he highlighted constraints in the building of skills due to the short time for the training. In terms of ensuring the quality of placement, the process for GI seems more proactive and appropriate

because the professional councils pre-approve the training centers. For SIWES, the process by NUC, NTBE, and NCCE in vetting the actual placement of students is retroactive.

The scarcity of places of attachment has been a great challenge for both programs. The SIWES coordinating units have been unable to offer places of attachment to all eligible students and rely on the students to seek for their own placements. The reasons include lack of comprehensive list of employers willing to accept students for training. This is attributed to the failure of the federal government to enforce the mandates (Amadi, 2013; Anderson, 2017; Atakpa, 2017; Mafe, 2010; Oladimeji et al., 2017). As a result, most students did their SIWES in places that were not germane to their field of study. Recommendations have been made for government to invoke penalties to enforce the mandates (e.g., Mafe, 2010; Tambuwal, 2012). Others, such as Agboh (2016) recommend offering incentives, such as tax rebates to employers. The latter seems like a better option to motivate employers to participate in human development.

Several authors report ordeals of prospective interns seeking placement in accredited training facilities, such as limited vacancies and biased selection processes (China, 2016; Ekeh, 2016; Makinde, 2016). As a result, some doctors opt for a supernumerary position, which means they would work without being paid to fulfill the internship obligation required to gain permanent registration (China, 2016). To address these challenges, the Federal Ministry of Health later mandated the MDCN to take full responsibility of placing medical doctors as from 2018 (Ogunberu, 2017, as cited in Talbot, 2019).

Orientation: The coordinating unit in the institutions organizes the SIWES orientation program to familiarize students with the code of conduct and ethics at work (Mafe, 2010; Oladimeji et al., 2017). The supervisor in the training centers organizes the orientation for interns (PCN, 2009; MDCN, 2004). The orientation for pharmacists spans two weeks (PCN, 2009). While information was not accessed about the quality of the operation of the orientation for internship, that on SIWES indicates inadequate orientation due to the large number of

participating students and limited time for the program (Mafe, 2010). Consequently, many students lack work ethics and proper conduct (Oladimeji, 2017; Tambuwal, 2012). To address these issues, some stakeholders recommend providing alternative resources such as, manuals on SIWES to augment orientation (Mafe, 2010).

Training and Supervision: The curriculum for SIWES consists of job descriptions based on stated learning and career objectives in different fields of study. That of GI consists of diagnosis and management of clinical cases (MDCN, 2006; PCN, 2009). The delivery methods for both feature the opportunity to observe and participate in job rotations in the different departmental or specialist lines while keeping records of training activities and assignments in logbooks.

The design of the curriculum and delivery methods with SIWES is integrated. Specifically, the design is sequential with GI because it is after the award of academic degree and for one year before observing the National Youth Service (NYSC) scheme. Also, it is integrated with SIWES because it is a requirement for academic degree and built into the penultimate year study. Meanwhile, students in universities embark on six months of SIWES training, and those in the polytechnics and colleges of education go on four months of training (Akerejola, 2004). Thus, the course load is six and four credit units for universities and polytechnics/colleges of education, respectively (Mafe, 2010). The integrated design with SIWES is evidence-based for facilitating the acquisition and transfer of knowledge and skills to jobs. But, it has been observed that the sequential design with GI is better suited for facilitating employment (Okoli, 2006). So, it behooves experts to strike a balance between the two approaches based on the relative overlap in the delivery of academic and vocational content in tertiary education. Because this issue borders on the main intent of this discourse, it will be discussed later in this analysis.

Meanwhile, participants in SIWES are supposed to be jointly supervised by an ITF area officer, employer, and institution coordinating unit supervisor (Atakpa, 2017; Mafe, 2010). The ITF area office staff is expected to visit the students at least once to vet logbooks while the institution

coordinating unit supervisor monitors student activities during three rounds of visits (Mafe, 2010; Oladimeji et al., 2017). An employer-based supervisor monitors the daily performance of jobs, assesses the students' progress on a weekly basis, and makes appropriate comments in their logbooks (ITF, 2016). Similarly, the supervision of interns involves an experienced and fully registered professional in the training center who is responsible for signing the weekly records of interns in logbooks and the Certificate of Experience (COE) issued at the end of training to certify that participants satisfactorily performed all duties and assignments under their supervision. The supervision of GI also involves the State Directors of the Ministry of Health and professional councils. The State Directors of Ministry of Health inspect and endorse the logbook during the monitoring visits while a representative of the professional councils inspects the logbook at a reasonable interval during the training (MDCN, 2006; PCN, 2009).

Notably, the supervision of GI rightly involves the professional councils as quality assurance agencies for practice. Conversely, the supervision of SIWES does not involve the quality assurance agencies of tertiary institutions. The lack of engagement of the quality assurance agencies in the supervision of SIWES leaves room for lapses in the operations as reports show that ITF often fail to supervise the students in training. Consequently, students take their logbooks to the area offices for endorsement (Mafe, 2010; Agboh, 2016). Also, the institution supervisors visit students only once due to lack of transportation and funding while industry-based supervisors do not take supervision with any level of seriousness (Atakpa, 2017; Mafe, 2010; Oladimeji, 2017). This lack of adequate supervision is particularly problematic because it impinges on the integrity of the grades students get at end of training.

Assessment: The assessment of students' for SIWES is based on the review and grading of the logbook, end-of-training report, oral presentation of the end-of-training report, ITF Form 84, and Interim Report of Supervisors on a scale of 0-100% (Mafe, 2010). The ITF Form 8, logbook and Interim Report of Supervisors are meant to capture both supervisor and student evaluations of the experience, while end-of-training report and oral presentation capture only the student perspective about their experience. Guidelines are provided to standardize the

reports, which the students present to a panel consisting of a representative of the SIWES unit of the university and the members of their department (ITF, 2016; Tambuwal, 2012). Students submit logbook, ITF Form 8, and Interim Report of Supervisors to their institutions at the end of the training, and for final grades which are assessed by Cumulative Grade Point Averages (CGPA) as well as a pass or fail evaluation. Failure to obtain a pass grade in the SIWES course may lead to repeat participation.

The assessment of interns involves the review and grading of logbooks, and the approved skill acquisition record on a scale of 0-100% as well as a pass or fail evaluation. The passing score for house officers is an average of 60% (MDCN, n.d.). The assessment also involves a pre-registration exam for pharmacists (PEP) post-internship. The pass mark is 50% (PCN, 2016). The grades for the interns are submitted to the Ministry of Health in the State of the training for vetting and to the professional council as part of the supporting documents for an application for full registration. The Registrar of the professional council issues interns who meet the criteria of good character and sound mind a Full Registration certificate. The consequence of failing to meet the passing scores for internship is equally a repeat.

Overall, the assessment of participants depends mostly on subjective judgments of professionals and non-standardized procedures (except for the PEP). These assessment approaches are based on “holism,” a paradigm widely adopted in college admissions and implicitly held by employers who rely exclusively on interviews to make hiring decisions. The principles are the following: assessment of future success requires considering the whole person; standardized test scores or measurement ratings are very limited snapshots, and expert judgment is the only way to fully understand how attributes interact to create a complex whole (Highhouse & Kostek, 2013).

Mafe (2010) further noted the non-uniform criteria and systematic assessment approach across all institutions necessary to standardize the scores earned by students. Besides, the assessments of students for SIWES focus on engagement in jobs to award CGPAs while the

assessment of interns is based on more comprehensive criteria, including engagement in jobs, performance on duties, and moral conduct to award a Certificate of Experience (COE) and full registration for practice. Because it is a requirement for graduation, there is need for use of multiple criteria and for more direct performance assessment of SIWES participants.

Funding and Payment of Allowances: The federal government funds both SIWES and GI. The funding for SIWES is through the ITF which in turn pays students allowances and supervisory allowances due to institutions (Mafe, 2010). For GI, the government allocates the funding to employers and approves the salary scale for interns. As is, the funding of GI seems satisfactory (Ekeh, 2016). Conversely, the funding of SIWES appears to really be problematic (Okoli, 2006). SIWES has grossly been underfunded over the years.

This underfunding is partly because participating students had increased at a much higher rate. Based on estimates by Mafe (2010), the amount expended at the peak of participation in 2008 represents a 29.2% increase from the dollar amount spent at the inception in 1974 while the growth in student population was 99.6%. This disproportionate increase in the amount expended compared to served population resulted in non-payment of student allowances and in disincentives on the part of students to participate. Overall, the lack of funding has resulted in dwindling human and material resources to support SIWES operations, especially the supervision of participants.

Similarly, the employers only are involved in paying allowances to participants of GI (Ekeh, 2016). Conversely, the payment of allowances to participants of SIWES involves multiple stakeholders, including the Federal Ministry of industries, ITF, employers, and institutions (Oladimeji, et al., 2017). The bureaucratic structure for the payment of allowances for SIWES participants has resulted in administrative delays. The delays are partly because most institutions lack financial autonomy and share a common account for operation (Oladimeji, et al., 2017). These delays have in the past resulted in a backlog of up to five years. Authors link

this delay to the lack of morale and commitment of both staff and students to the training (Oladimeji et al., 2017; Atakpa, 2017; Agboh, 2016; Anderson, 2017). Although online payment was later introduced as a solution, but the website designed for the online payment has had inherent problems which further hindered its implementation.

Quality Assurance and Research: The quality assurance of GI involves developing minimum academic standards, operational guidelines, and accreditation of programs (MDCN, 2006; PCN, 2009). The regulatory agencies of the institutions (i.e., NUC, NBTE, and NCCE) are partly responsible for the quality assurance of SIWES and GI. They work with the institutional coordinating units for SIWES and with the professional councils for GI in developing, monitoring, and reviewing job specifications to guide internship training. While the NUC, NBTE, and NCCE seem to have generally lived up to expectations in monitoring institutions to ensure compliance with the guidelines; not all SIWES-approved programs in the institutions have complied with the guidelines (Tambuwal, 2012). Thus, there is need for better monitoring of SIWES operations by the NUC, NBTE, and NCCE. Specifically, more attention needs to be paid to SIWES in the accreditation of institutions. Conversely, the NUC, NBTE, and NCCE have worked well with the professional councils to accredit internship training centers for placing students and to monitor compliance with guidelines (Oshiko et al., 2009; PCN, 2009).

Meanwhile, the ITF has not kept up with the responsibility of researching and circulating reports on SIWES operations to stakeholders using the comprehensive reports the institution coordinating units submit at the end of each performance cycle (Mafe, 2010). Ideally, quality assurance and research of GI should be part of the mandate for professional councils to control practices. However, it seems the professional councils have not kept up with this responsibility as far more research was accessed on SIWES.

To summarize, SIWES apparently has better placement standards. There has been a tremendous expansion of eligible students and placement is facilitated. However, the operation has been beset by several setbacks. Many authors also identified the lack of quality supervision

and funding. Notably, these problems are logistical due to the bureaucratic organizational structure. However, the leaner organizational structure for GI appears more efficient and effective for motivating and preparing students for the transition from school to the workplace. Besides, it appears that an organization of a network of professionals is useful to improve the operation of training and supervision. Also, the timing of placement for GI seems apt for facilitating employment outcomes. However, GI has similar inefficient placement operations (China, 2016; Ekeh, 2016; Makinde, 2016).

While previous studies focused on either the SIWES or GI, this integrated review suggests strengths and weaknesses as well as similarities and differences of the programs, and the need to build a coherent system. There is need to consolidate SIWES and GI into one school-to-work internship program. This proposal includes extending the central management role of professional councils beyond housemanship to all fields of study. The next segment presents the vision for the operation of the unified program.

The way forward

A Model of Work-Based Learning: The Graduate Employability Skill Development (GESD) model of WBL being proposed here draws from Pitan's (2016) model, which is evidence-based. By inference, the framework of the GESD model is outcome-based education (OBE). It is centered on addressing contemporary curriculum mismatches and making education relevant to the national and local needs (Geo-Jaja & Magnum, 2003). Accordingly, WBL is composed of opportunities for developing employability skills. The components are career education, real-world activities, work experience, and reflection and evaluation. The SIWES and GI incorporate work experiences and reflection and evaluation.

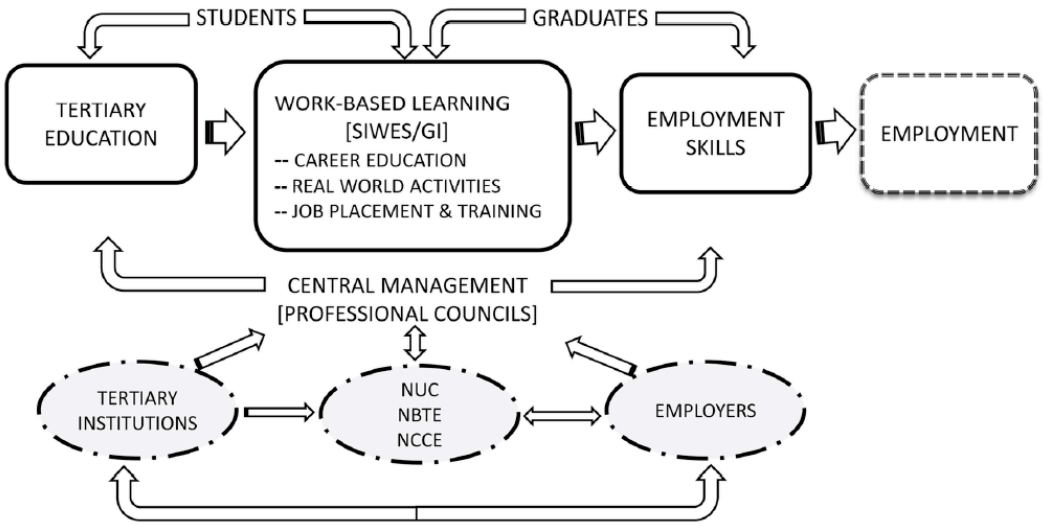

Figure 1: Graduate employability skill development model

Career education and real-world activities are the underemphasized components of the programs. They are all forms of collaboration with employers to prepare students on activities or situations which they are likely to come across in the real world. Pitan's (2016) findings suggest that career education (e.g., career counseling programs) and real-world activities (e.g., field trips to industries) are important for building the employability skills of students. However, most institutions lack or underutilize guidance and counseling units. Therefore, he recommends institutionalized career service units to provide career education at an early stage and continued. Amadi (2013) has recommended a comprehensive model of WBL that includes career education and real-world activities.

Hence, the GESD is a continuum model of WBL which begins with career education and real-world activities in school and extends to the work settings. As stated earlier, SIWES and GI are designed to facilitate career preparation through placement, training, and supervision in work settings. Thus, the GESD model implies a multi-purposing of WBL, covering career awareness, exploration, and preparation (Virginia Department of Education, 2014). The set up and management functions for applying the model are as follows.

Organizational Structure

A way forward with organizational structure for WBL is to maintain the lean management structure of GI while the professional councils should centrally manage the program. As noted already, analysts had advocated for a central management agency with a primary mandate for SIWES. Because the primary mandate of professional councils is the quality assurance of practice, it will help mitigate the demands of central management. As stated previously, the Federal Ministry of Health has similarly consummated a plan to have the MDCN centrally manage the GI program to address the challenges medical doctors experience, beginning from 2018. Extending the management style of GI to other fields of study is appropriate to standardize the functions of WBL and facilitate quality assurance and research. While the health field is well established and already have the professional councils represented at the national level in the Ministry of Health, some fields of study, lack representation at the federal level. Thus, efforts should be made to have an equal representation of all fields at the federal level. In the meantime, fields that lack representation at the federal level can have the respective councils affiliated to the Ministry of Commerce and Industry as is currently the case with SIWES.

Organizational Functions

Job placement and quality assurance functions are the focus because of the observed operational dysfunctions. The idea of job placement was originally formulated for individuals with disabilities in the US Here, we suggest it is an idea that can be adapted for general use in Nigeria. The goal of placement is to intervene in the management function of staffing an organization (Millington, Butterworth, Fesko, & McCarthy, 1998). Staffing is a uniquely human resource management function and involves worker movement into an organization through selection, orientation, and training (Millington, Miller, Asner-Self, & Linkowski, 2003). Job placement as it relates to a system perspective is defined as an intervention to bypass the employee selection process. The employee selection process involves comparing a potential employee with other applicants for selection. The ultimate competency of a placement professional is the ability to effect positive change in the applicant, the employer, or the

process of selection that binds them (Millington, Butterworth, Fesko, & McCarthy, 1998).

The targets for placement are students in their final year, so they can participate in the internship as soon as they complete their final year and before their call to national service (NYSC). An optimal job placement should ultimately facilitate employment and meet the following criteria: match with the educational qualifications and knowledge and skills requirements, located in a preferred area of residence; and remove barriers to employing graduates before they participate in the NYSC (Agboh, 2016; Anderson, 2017; Ekeh, 2016).

A bottom-up management process seems more appropriate to address placement issues. There is need for the coordinating units to serve as the local champions to initiate the development of training centers with the employers and mediate placement. The hiring of career counselors is useful to facilitate these functions. The process to ensure a successful placement entails: reaching out, establishing partnerships and agreement with the employers; consulting with the management of the work organization to build rapport for job analysis and supervision; advising appropriate arms of institutions on the areas for offering preparatory courses; and, counseling of candidates for placement (Atakpa, 2017; Virginia Department of Education, 2014). The MDCN (2006) provides a prophylactic rather than judgmental function of quality assurance. As previously stated, this quality assurance function of GI is proactive. The operation in respect of this framework is one of involvement of councils in the initiation and planning phases of the establishment of a training center to ensure compliance with guidelines of minimum standard. This implies that institution coordinating units and professional councils should collaborate in establishing or turning existing private and public enterprises in different parts of the country to training centers. The standards and guidelines for accrediting training centers should ensure adequacy of the physical facilities for admitting students and must be clearly defined by the councils and widely circulated to institutions. The councils should arrange the accreditation visits to include before, during, and at the end of the training of the first set of students.

Subsequent visits can be arranged with a training center to ensure the maintenance of standards. Each visitation should involve the completion of specific questionnaires in respect of criteria outlining standards; inspection of the facilities; interviews with the staff and participants; report of findings; and evaluation of the training center. The council should facilitate the research of effects of operation through creating a database for use by the coordinating units and employers in recording the inputs, processes, outputs, and outcomes of programs. Harbison (1971) has identified comprehensive assessment techniques for WBL programs to include, manpower surveys – the study of labor-absorptive capacity of different industries; labor force surveys and enumerations – continuous enumeration of the labor force; tracer studies of graduates – tracing of career patterns of graduates; and cost-benefit studies of returns to education – the calculation of cost-effectiveness of investments in education. From all of the above discussion, there are obvious benefits to appropriate integration of WBL into HE. The conclusion below summarizes the main points of this discourse and recommends the extension of WBL to other levels of education for advancing economic development.

Conclusion

Nigeria has one more chance to uphold the trust of her youths in yet another decade of promise. In 2009, the African Union (AU) launched The African Youth Decade, 2009-2018 Plan of Action, DPoA. It is a framework for multi-sectoral and multi-dimensional engagement of all stakeholders towards the achievement of the goals and objectives of the African Youth Charter towards accelerating youth empowerment and development (AU, 2011). With the DPoA, it is envisioned that by 2025, Africa would be an integrated frontier in the areas of economic, social, cultural, and political development. By share size of her economy, human and natural resources, it could be said that as goes Nigeria, so goes that AU project. Nigeria occupies a quintessential position to lead the continent to the 2025 AU vision.

The rationale for integrating WBL into the HE curriculum in Nigeria was to address employability skills. But what have defied logic is the continuous historically high unemployment rates among Nigerian graduates. Indeed, there has been little evidence of the

expected positive impact on the employability of graduates as well as on economic development, which is why this state of affairs demands that extra efforts be taken to investigate the barriers to effective integration. This analysis indicates that the reason why the Nigeria's HE system in recent decades has failed to provide the needed skills to graduates is because the institutions have been grossly underfunded but yet expanded tremendously regardless of academic standards and relevance to sustainable development. The analysis equally identified inadequate placement as a fundamental barrier of the WBL programs. Hence, the recommendations focus on strategies to improve the development and quality assurance of internship training centers. However, findings from the literature in advanced economies, such as by Solomon et. al (2001), suggest the value of extending WBL to primary, secondary, and continuing education to improve employment outcomes. More recently, Rooney and Boud (2018) have examined informal learning, using a practice theory perspective to show how learning can be understood as a key feature of working and how it is implicated in the normal ebb and flow of work practices.

Fortunately, with the 2014 Universal Basic Education guidelines, the primary and secondary school curriculum now emphasizes vocational training and is intended to increase employability of graduates. Also, the Federal Ministry of Education recently has supported several reform projects to advance vocational and technical education at all levels of education, such as the "vocationalization" of secondary education (WES, 2017). These changes can be viewed as a sign of gravitation towards WBL. The essence of extending WBL to primary and secondary school levels is to serve as an alternative for building the skills of those struggling learners and other individuals who may not be cut out for academic career. It is important to be mindful of individuals in this category, and to be inclusive in formulating fiscal policies in training on crafts and entry-level jobs, so that every citizen can contribute their own quota to national development. This would mean acquisition of subtle mix of know-how, techniques and tolls in the educational process that focuses on individuals' preparation for entrance and progress in occupations. It includes such job skills like carpentry, building, farming, welding, sewing,

knitting, weaving, office administration and farming.

As it stands, there was no integration of WBL in continuing education in Nigeria for professionals. Put otherwise, WBL as a component of tertiary education is simply meant to facilitate employment defined as an event of being hired. This model tends to see training and development as something undertaken only earlier in life rather than a life-time process. However, employability has been changing globally from a static binary event of being hired for a job, to a more dynamic and complex notion of obtaining meaningful jobs throughout an individual's lifetime (Adebakin, 2015). Work-based learning in continuing education is a part time education for those in work. In this type of WBL the traditional approach to the curriculum is abandoned so that the curriculum is determined by the requirements of the workplace and learning is designed around the needs of the individual or organization.

As a component of continuing education, WBL accentuates the essence of viewing learning as a lifelong activity and for generating national wealth and is central to a paradigm shift from an "industrial society" to a "knowledge society" (Solomon et al., 2001). The incorporation of WBL in continuing education is important because real progress in human development involves fostering resilient human development and reducing vulnerabilities to adverse events into the future (Human Development Report Office, 2014). Thus, the essence of extending the model to continuing education is to further facilitate the development and employability of individuals. Hence, the concept of development is a future-oriented type of training focused on bringing the competencies of individuals up to the desired standards for performance in careers into the future (Adebakin, 2015). Because the ITF and professional bodies have a similar mission to control practice, both agencies are central to working out the modalities for WBL as a continuing education scheme. There could be no better time for a scrupulously articulated WBL than now. Ultimately, the integration and effective management of WBL at all levels of education is an important and realistic ideal that Nigeria should strive for.

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Competency, Capability and Professional Identity: The Case for Advanced Practice

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In the last 40 years, a series of models and frameworks associated with competency, capability and identity have been advanced in the published literature. These models and frameworks have arisen at a time of fundamental shifts in both the type and nature of work in developed countries, for example shifts associated with changes to labour markets from a reliance on jobs in agriculture and manufacturing (in the industrial era) to a reliance on jobs in both traditional and novel service industries (in the post-industrial and service eras) along with a rise in demand for work which requires non-routine cognitive abilities and attributes.

Moreover, an increasing demand for advanced practitioners and leaders in every field of work has led to the advent of the so-called 'advanced practice professional', a practitioner who contributes higher order cognitive, affective and conative inputs to organisations and the world of work more generally. These fundamental shifts in work now require practitioners to not only have the competencies and capabilities to perform at a high level, but also require a well-developed sense of professional identity and an ability to contribute, as a discipline leader, in innovative ways to enhance organisational performance and the world of work more generally.

This paper explores these propositions. We advocate a model of advanced practice professionalism in relation to competency, capability, and professional identity, and show through two real-world examples how work-based learning and research, as practiced by University of Southern Queensland in its Professional Studies program, contribute to the development of advanced practice professionals in Australia.

Keywords: Competency, capability, identity, advanced practice, professional studies, work-based learning, work-based research

Introduction

Our general goal is to introduce the relationship of competency and capability to professional identity and show how their respective development can lead to advanced practice. We will also indicate, using two real-world examples, how a Professional Studies degree program in Australia

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built around a pedagogy of work-based learning (WBL) has been operationalised to create advanced domain specialists. Notwithstanding issues surrounding diverse functional learning definitions, which use nomenclature like 'expanded', 'extended', 'advanced' (e.g., Chang, Gardner, Duffield, & Ramis, 2012) and 'expert' (Luther & Rosenbaum, 2018), such educational approaches to professional practice in Australia have been deemed important because:

> The capacity to attain and apply new knowledge, and use new technologies will be the focus of the future. As both knowledge and technologies risk rapid obsolescence, and tasks become susceptible to automation, human skills required by the market and society will constantly shift. In this environment, it is crucial to have [educational] systems that support and enable people to retrain, rather than learn how to do one job very well (Australian Industry and Skills Committee [AISC], 2017, p. 26).

The type and nature of work are changing. These changes, sometimes referred to as 'megachanges' (e.g., Kohlbacher, 2017), are the result of so-called megatrends and collectively represent how work and its future are viewed by governments, business leaders and researchers (AISC, 2017). Fundamental changes in work have been impacted by surges in the global mobility of workers, the ageing of indigenous workforces, increases in workforce urbanisation, systemic innovations in digital technologies and their application to and impact on work (including automation, artificial intelligence and robotics, as discussed by Susskind and Susskind, 2015), and increased participation by women and minority workers in traditional markets (AISC, 2017, pp. 10-11). As a consequence, the composition of Australia's workforce, for example, has been transformed over the last century, with acceleration occurring in the last 30 years.

Consider the following two diagrams in Figure 1, which reflect trends in many industrialised countries. Shares of the Australian workforce engaged in five main types of work are presented (left-hand diagram). Over one hundred years ago, 40% of workers were employed in the service sector (i.e., tertiary industries), which included professions such as nurses, psychologists, pharmacists, teachers, police officers, emergency services personnel, consultants, journalists,

architects and accountants among others. The other 60% of the workforce was composed of those working in agriculture and mining (i.e., primary industries) and manufacturing and construction (i.e., secondary industries).

However, by the early 21st century, 80% of the workforce was engaged in providing services rather than goods, with just a combined 20% of the workforce employed in the other four industry groups. Such changes in sectoral shares of the Australian workforce are similar to those of the United Kingdom, which had an 82% service sector and 1.1% agricultural sector in 2017 (Statista, 2019a), and New Zealand, which had a 73% service sector and 6.6% agricultural sector in 2017 (Statista, 2019b). Hence the steady transition over the last century in Western countries to what some have called a 'care economy' (e.g., Dwyer, 2013).

Note that types of work in Australia, which are susceptible to automation (such as agriculture and manufacturing), have declined but construction, which is not, has remained stable. Nevertheless, the most important sectoral share growth in the last 40 years is across industries which are not only largely impervious to automation but are also more dynamically fluid and require significantly higher levels of cognitive, affective and conative input, throughput and output. For example, among the cornerstones of service industries are their reliance on interpersonal trust (Johnson & Grayson, 2005) and loyalty (Manzuma-Ndaaba, Harada, Romle, & Shamsudin, 2015), and thus not only skills and knowledge but attitudes to work become critically important in service-based professions.

Among the so-called 'non-automatable skills' required by workers in the knowledge economy are empathy, sociability, ability to work in teams, social and cultural awareness, persuasive ability and adaptability (AISC, 2017, p. 30). These shifts in *type* of work have been well documented in Australia and the UK over several decades, for example by Jones (1995) who advocated 25 years ago for an extension of tertiary industries into quaternary and quinary industries, and are typically associated with the social and economic transformation from an industrial to a post-industrial era, and subsequently to a service era.

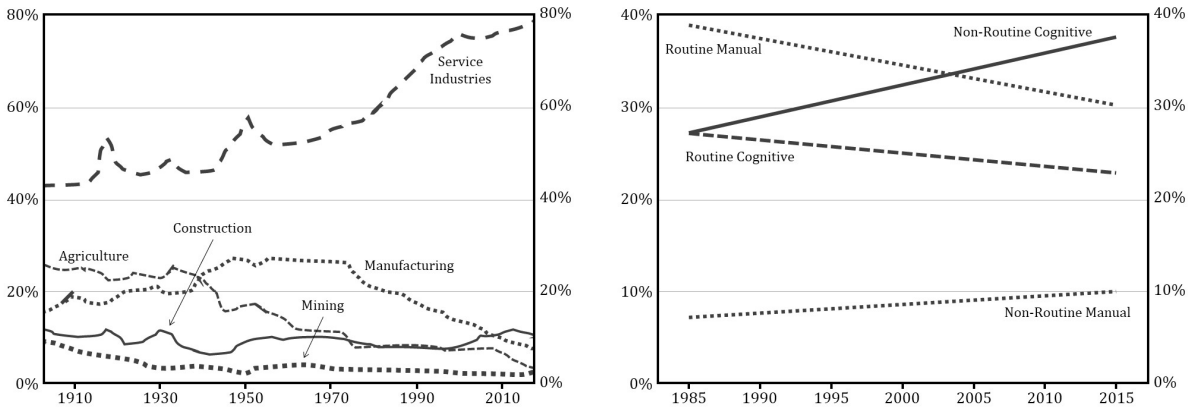

Figure 1: Shares of the Australian workforce by industry sector, 1905-2015 (left); shares of the Australian workforce engaged in jobs which demand routine and non-routine manual and cognitive capacity, 1985-2015 (right) (derived from Heath, 2016).

Perhaps more significantly for this paper, and in parallel to the economic restructuring of Australia's workforce since the early twentieth century, are fundamental transitions in the *character* of work, also well documented in the literature. Figure 1 (right-hand diagram) shows how in the last 30 years a similar seismic shift has occurred in the relation of routine and non-routine work to cognitive and manual work, with the most rapid rise in demand for non-routine work which requires cognitive input, a topic recently discussed in detail by Pennington and Sanford (2019). In this case, 'cognition' means innovation, creativity, problem solving, memory, and attention while working; these cognitive traits are sometimes applied to work in ways "we can never imagine" (Committee for Economic Development of Australia [CEDA], 2015, p. 46).

Of interest is that the demand for non-routine work, which is work done for the first time or performed irregularly (although the term has a different meaning in project management, for example, because non-routine work is non-project work, not irregular work), has increased significantly, with the greatest increased demand being for skills related to non-routine cognitive work. Thus, by 2015 in Australia the need for routine manual work, irrespective of whether or not it required cognitive skill, was declining but nearly 50% of all work performed

was non-routine, and most of that (i.e., 37% of all work) required cognitive input. [Note, some non-routine cognitive work is laborious and does not require advanced skills or knowledge, such as public relations and medical or technical positions, but typically all advanced practice requires cognition and is often non-routine.]

Some researchers have referred to these types of workforce shifts from manual to cognitive and from routine to non-routine as 'job polarisation', although the term has assumed a slightly different meaning when applied in other work contexts (for example in the U.S., where the concept mostly relates to the division of low- and high-paid jobs, Dwyer, 2013). Gratton (2015, p. 33) also explains the phenomenon of job polarisation in the context of routine and non-routine work and what she calls the "hollowing out of work". However, irrefutable is the conclusion that as the type and character of work change the need for different modes of learning, training and education, and the general upskilling of the workforce, become (or should become) national priorities.

Governments, educational institutions and industries around the world have responded differently (and sometimes slowly) to these types of systemic changes in work. One pervasive innovation in Australia designed to address workforce evolution has been the development and implementation of competency frameworks and evidence-based practice competencies (e.g., Carraccio, Englander, Van Melle, Ten Cate, Lockyer, Chan ... & Snell, 2016), such as those embraced by the vocational and education training (VET) sector (e.g., Smith, 2010), which emphasise how the Australian Qualifications Framework (AQF, 2013) can be applied and how, more recently, the Australian Core Skills Framework (Department of Industry, Innovation, Science, Research and Tertiary Education, 2012) has been employed across a variety of industries.

Examples of AQF application have included uniform standards like the National Competency Standards for Project Management (Australian Institute of Project Management, 2008) and the National Competency Standards for Dietitians designed for entry-level practitioners (Dieticians

Association of Australia, 2015), although the latter related more to generalist rather than specialist competencies (Palermo, Capra, Beck, Dart, Conway, & Ash, 2017, p. 328), a differentiator with our model to be discussed later in this paper. Hence, the need to ensure "all stages of the education process focus on instilling competencies rather than the retention of specific knowledge…it is important that the skills being taught are not firm [i.e., organisation] specific, but instill broad competencies that represent a valuable public investment" (CEDA, 2015, p. 15).

As a consequence of these trends, the Commonwealth Government of Australia has in the last ten years also identified as "an urgent priority" the necessity of filling "skill gaps [which] remain in critical fields such as information and communications technology (ICT), high level policy [development], research and project management" (Advisory Group on Reform of Australian Government Administration [AGRAGA], 2010, p. ix); worryingly, in 2010 the Government reported a skills shortage of between 29% and 34% (AGRAGA, 2010) in the Australian workforce, a persistent problem through 2019 in many industries (e.g., Australian Industry Group, 2019).

Moreover, the Australian public service, it has been said in the past decade, must "ensure it has the capability to provide high quality support to government [and therefore] must attract high performing individuals from within and outside the public sector. It must also invest in learning and development and provide pathways for high performing employees to grow and develop…" (AGRAGA, 2010, p. 24). Similarly, according to healthcare industry representatives, Australia must "ensure a capable and qualified workforce—through registration, accreditation, training and development" (Mason, 2013, p. 7). The Commonwealth Government of Australia has therefore recognised that an organisation's worth is not its assets, capital or intellectual property but its people, its intellectual capital. The Government has noted that "the private sector increasingly recognises human capital as a primary source of competitive advantage [and] recognises that investing in people provides significant productivity improvements" (AGRAGA, 2010, p. 24), a challenge which continues (Weise & Troller, 2018).

In considering the nature of its future workforce, in 2010 the Australian Government has acknowledged that private organisations expend an average of 4% of their payroll on employee development (although by 2019 only half these organisations planned to increase spending, according to Pennington and Stanford, 2019, p. 81), which represents an investment in "retention, capability development and talent management" (AGRAGA, 2010, p. 24). However, almost half of Australian public service agencies in 2010 spent less than 1% of their budgets on "staff development" (AGRAGA, 2010, p. 24), although investment in the Government's health sector workforce training and development increased from $286 million in 2004-2005 to $1.8 billion in 2016-2017, a 525% increase in 12 years (Department of Health, 2017). "Critically", according to the Advisory Group on Reform of Australian Government Administration ten years ago, evidence thus suggested that the Australian public service:

> …was not sufficiently or effectively investing in learning and development opportunities for all employees. Only seven per cent of agencies spend more than three per cent of their annual budgets on learning and development opportunities for employees….The quality of learning and development is also a problem. Fewer than one in three employees rated the effectiveness of their learning and development programs as high or very high in terms of helping them to improve performance (AGRAGA, 2010, p. 24).

At the vanguard of Australia's drive to upgrade its workforce is the more recent shift from evidence-based competency models to capability development models (O'Connell, Gardner, & Coyer, 2014), and in some cases to the promotion of advanced practice professionals (e.g., Grace, 2018). Our purpose is to examine the relationship between breadth and depth of competency, capability and professional identity and to propose how this chain of professional development can lead to advanced practice in work-based learning (WBL).

In the following sections we introduce advanced practice professionalism, the Professional Studies program at University of Southern Queensland (USQ) and its relation to professional practice, and two real-world examples which apply these developmental approaches to Australian and German businesses. The two examples we draw from are from project

management and education domains. However, most of the observed economic trends outlined in the paper and the potential contributions of advanced professionalism are not limited to Australia, and where possible we will make links to other educational and work contexts.

Advanced practice professionals

A model showing the relation between context, workforce strategy, workforce competency and capacity, and organisational performance has been advanced by the Australian Public Service Commission (2010), as shown in Figure 2. This model, which has also been broadly identified as central to the strategic development of Australia (AGRAGA, 2010), explains that the human capital of any given workforce is the product of a workforce plan, which itself is embedded in an external work environment and business context. Its applicability, however, is not limited to Australia.

Human capital is composed of the competency and capacity of the workforce but is embedded in the culture, conditions, design and leadership of the collective workforce. In this sense, workforce capacity refers to an "organisation's ability to perform work or the enabling factors that allow an organisation to perform its functions and achieve its goals" (Cox, Jolly, Van der Staaij, & Stolk, 2018, p. 7). In the case of the public service, it is a government's ability to "marshal, develop, direct and control its financial, human, physical and information resources" (Cox et al., 2018, p. 7). The model presented in Figure 2 suggests that organisational output (i.e., an organisation's overall performance) is the product of these various workforce interactions.

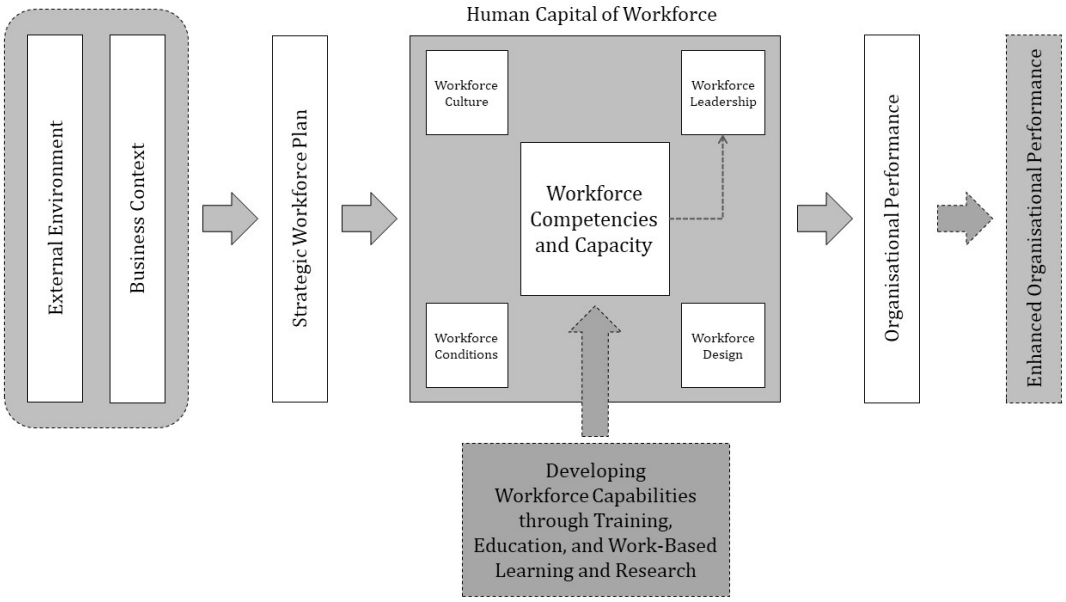

Figure 2: Relationship of human capital of a workforce to organisational performance.

In this paper we argue that to enhance the human capital of an organisation and hence its performance, not only will new workforce competencies, skills and knowledge be required as a result of training, professional development, education, work-integrated learning and research, but entirely new human capabilities must be developed, particularly in the leaders of work domains, as represented by the dotted line additions made to Figure 2 by these authors. Workforce capabilities in government, for example, encompass “the skills, knowledge and abilities that employees of a high performing public service must possess” (AGRAGA, 2010, p. 24). As proposed in the following sections of this paper, such capabilities are the product of advanced practice.

However, it should also be noted that ten years ago the Australian public service (APS), by its own admission, “is blurring the capabilities and skills development required by [its] employees” (AGRAGA, 2010, p. 27). For example, in addition to a blurring between capabilities and skills (i.e., competencies) development, in the context of a government’s ability to deliver ‘large projects and programs’, Shergold (2015) pointed out that for the APS, problems associated with

poor and ambiguous decision making, a paucity of support for key decision makers, a lack of clear understanding within the workforce of a minister's appetite for "risk on individual programs and across their portfolio, and [the commitment to] reach agreement on how implementation challenges [should] be identified, accepted and managed within agreed resources" (Shergold, 2015, p. vii), and a need to enhance program management, all play a part in the failure of governments. Moreover, it is evident on close inspection that these failures bear directly upon the issues of competency and the capability development contemplated by this paper in relation to advanced practice.

Advanced Practice Professionals (APPs) are described in the international literature as those who have an opportunity to learn, study, and thrive in 'advanced practice' because APPs are considered workforce contributors who extend knowledge and skills within a practice environment, such as a workplace or community of practice (e.g., Lowe, Plummer, O'Brien, & Boyd, 2012). Leading practitioners drive practice forward and are often 'thought leaders' within their organisations. APPs have therefore been said to make a valuable contribution to productivity and organisational output and indeed to society as a whole (e.g., Newhouse, Stanik-Hutt, White, Johantgen, Bass, Zangaro ... & Weiner, 2011).

Key benchmarks of an APP include their ability to act with autonomy. As such, they have a sense of their own identity and an ability to act independently and exert control over their environment, including a sense of task mastery, internal locus of control, and self-efficacy (APPFSC Secretariat, 2012, p. 4). APPs also gain peer recognition as a leader, although we suppose APP leadership involves leading with 'humility', as recently examined by Chiu, Owens and Tesluk (2016), and an ability to influence the professional practice of others and their discipline as a whole.

Such APP benchmarks somewhat dovetail with the earlier work of Stuart Dreyfus and Hubert Dreyfus in their five-stage model of adult proficiency (Dreyfus, 2004). However, the Dreyfus model is built exclusively around, and therefore relies heavily on, theories of competence and

skill. For example, Dreyfus proposes that a 'novice' learner is someone for whom work is broken down into a set of tasks and the skills needed to carry out the task; an 'advanced beginner' is someone for whom repeated, situational work experiences as a novice can lead to the recognition of so-called maxims, and thus "learning can be carried on in a detached, analytic frame of mind, as the student follows instructions and is given examples" (p. 177). The Dreyfus third stage is 'competence' in learning and work, which Dreyfus uses to mean:

> With more experience, the number of potentially relevant elements and procedures that the learner is able to recognize and follow becomes overwhelming. At this point, because a sense of what is important in any particular situation is missing, performance becomes nerve-wracking and exhausting, and the student might well wonder how anybody ever masters the skill. To cope with this overload, and to achieve competence, people learn, through instruction or experience, to devise a plan or choose a perspective that then determines those elements of the situation or domain that must be treated as important and those that can be ignored. As students learn to restrict themselves to only a few of the vast number of possibly relevant features and aspects, understanding and decision making becomes easier (p. 178).

'Proficiency', the fourth stage of learning and development, occurs when the individual is not only familiar with rules, but based on more extensive experience begins to understand different situations and how to make informed decisions about them. Finally, 'expertise', which can be likened to advanced practice professionalism, in the Dreyfus model means the proficient individual, "immersed in the world of his or her skillful activity, sees what needs to be done [and can] decide how to do it" (p. 179), often in non-routine work situations requiring advanced cognitive traits to successfully achieve a constructive outcome. Thus, "the ability to make more subtle and refined discriminations is what distinguishes the expert from the proficient performer" and "allows the immediate intuitive situational response that is characteristic of expertise. (180). The word 'intuitive' being the key to non-routine cognitive work for the advanced practitioner.

Using the example of Australian social work, the hallmarks of advanced practic, which go well beyond competence and skill, are thus defined as:

> The ability to deal effectively with complexity in ways consistent with core social work values. Within this context, advanced practice involves the ability to see beyond the presenting problem, to understand the uses and limitations of standardised assessments, diagnostic classifications, history taking, third party reports and other sources of information.
>
> Advanced practice then involves the ability to prioritise issues; to be able to work with the client to identify the goal or goals of intervention in ways that affirm their self-determination while balancing this with other competing concerns….Advanced practice involves delivering interventions with a high level of knowledge and skill, with selection of intervention approaches informed by an understanding of both the strengths and limitations of evidence-based practice.
>
> In approaching these tasks, advanced practice displays sensitivity to the vulnerability and powerlessness of many clients, to cultural and indigenous issues, as well as an awareness of the ethical dilemmas and dimensions of practice situations (Simpson, nd, p. 2).

Moreover, "advanced social work practice shows the practitioner's greater capacity for a flexible use of self, for reflexivity, and for a more autonomous and independent reflective practice" (Flaskas, 2011, p. 4). In these ways, APPs have gone beyond competency and even capability to a developed sense of professional identity and have done so via two possible routes: a broadening of competence or a deepening of competence in the direction of greater capability. [For the purposes of this paper, we equally weigh the significance of broadening or deepening competence and experience in relation to advanced practice, but it can be argued that deepening knowledge, as in 'specialization', is more valuable than broadening it. Nevertheless, other theorists support our position in relation to expertise and advanced practice (e.g., Mangione, Borden, Nadkarni, Evarts, & Hyde, 2018).]

In Figure 3 we therefore show the relationship of competency, capability and professional identity to the development of advanced practice in a model we have adapted from an earlier advanced pharmacy practice framework (APPFSC Secretariat (2012, p. 7), a model somewhat aligned to the Australian Institute of Project Management's (2019) professional certification

model of: practitioners > managers > senior managers > directors and executive managers for portfolio, program and project management.

We agree with the APPFSC Secretariat's (2012, p. 9) earlier assessment that competency is "a complex construct where the attributes contributing to [it] include the individual's values, beliefs, motives, attitudes and personal traits", and therefore we define competency to mean what Boyatzis originally intended it to mean in the 1980s when he first popularised the term, namely an underlying characteristic of a person, as opposed to later uses which either inexorably link competency to leaders and high-performance individuals or apply it as an umbrella term to mean "almost anything that might directly or indirectly affect job performance" (as stated 30 years ago by Woodruffe, 1993, p. 29), such as role-specific competencies (Ghasemy, Hussin, & Daud, 2016, p. 218).

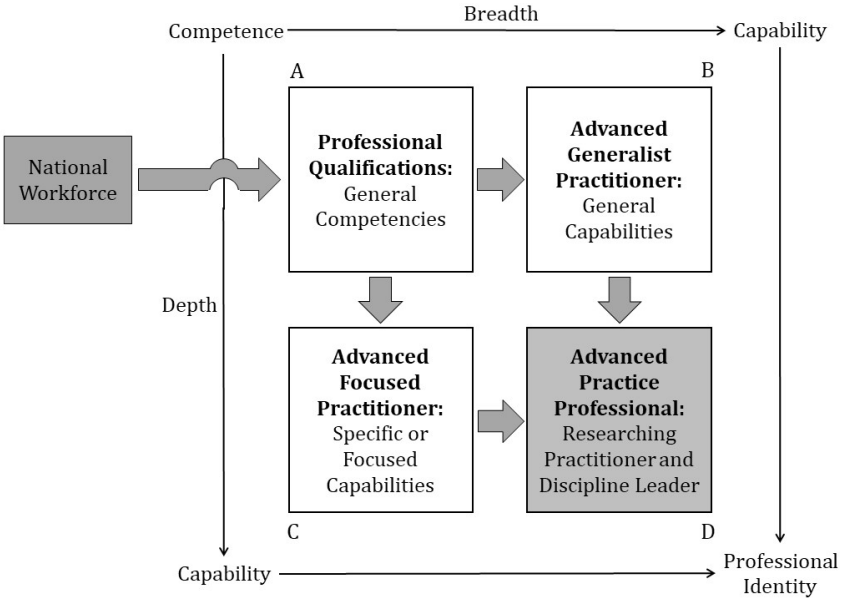

Figure 3: Advanced practice professionalism and its relation to breadth and depth of competence, capability and professional identity.

The characteristics associated with competency in its earliest incarnation could include a "motive, trait, skill, aspect of one's self-image or social role, or a body of knowledge which he or

she uses" (Woodruffe, 1993, p. 29), and have subsequently been extended to include characteristics like social competence (Wight & Chapparo, 2008) and cultural competence (e.g., Garneau & Pepin, 2015). Thus, competencies in work mean those underlying human characteristics (or latent cognitive and affective traits or abilities) which an individual possesses and applies to his/her job. In our model, general competencies relate to Box A of Figure 3, which refer to the minimal or basic professional qualifications an individual in the workforce would be expected to possess when working. Such an attribution is common, for example, in contemporary nursing (Melnyk, Gallagher-Ford, Long, Fineout-Overholt, 2014).

Capability, on the other hand, refers to a higher order level of thinking and behaving, and can be reflected in both broader and deeper expertise. However, like competency, the capability construct has evolved significantly over the last 30 years, and in some cases has become ambiguous, with what Gasper (2007, p. 336) called "unclear boundaries", but may be associated with higher order competency. To this end, Ghasemy, Hussin and Daud (2016) point out that researchers have regarded capabilities "as related to leadership qualities of planning and implementing successful transformations" whereas "competencies [are] related to managerial abilities of delivering or performing at the highest possible level in a particular setting" (p. 218).

Thus, by this definition, capability can be associated with leadership and organisational transformation and competency with managerial abilities in specific work contexts, although both may occur at a high level of cognitive, affective and conative functioning. The cognitive domain includes knowledge and skills to be acquired and learnt and the affective domain includes attitudes and behaviours to be acquired and learnt, whereas conative skills help APPs determine future courses of action—not only when interacting with data and skills, but also when interacting with people. Conative functioning thus also deals with feelings and emotions and how to harness them in order to be more productive, and includes the ability to interpret complex work-based situations and circumstances and how best to respond to them. Such a conclusion about cognition, affect and conative functioning, however, is contentious because

the level of deliberation and reflective thinking required in expert problem solving when associated with normal and abnormal work circumstances and decision making may or may not require critical thinking to be successful (e.g., Gobet, 2018).

In the 1980s, Sen (1999) and Nussbaum (2011) introduced the capability construct via what they called the 'Capability Approach', which has continued to evolve in the last 30 years. According to Gasper (2007, p. 336), capability is:

> The full set of attainable alternative lives that face a person; it is a counterpart to the conventional microeconomics notion of an opportunity set defined in commodities space, but is instead defined in the space of functionings. 'Capabilities', in contrast, conveys a more concrete focus on specific attainable 'functionings' in a life, and connects to ordinary language's reference to persons' skills and powers and the current business jargon of 'core capabilities'.

The primary constituents of the Capability Approach are thus functionings and capabilities, or what can be called the ability to be and the ability to do. As explained by Kettle, Wells and Fergusson (2017) 'functioning' is an achievement whereas a 'capability' is one's ability to achieve the functioning, and thus a functioning relates to the quality of life (for example in this context, the quality of one's life at work) and capability relates to one's ability to remove obstacles so they have more 'freedom' to live the kind of life they have reason to value (Robeyns, 2005). In the workplace, this means developing the ability to do (i.e., the capability of doing or what can be called the 'effectively possible opportunity') in order to achieve the desired outcome or state of being (i.e., the function, achievement or the 'realised').

Functionings can vary from such elementary things as being adequately nourished and being in good health, to more complex achievements such as having a valuable job, not suffering from a lack of self-respect, and being a valued member of a learning or social community. Indeed, the Capability Approach should be understood in terms of human development (Krishnakumar, 2007), and the "ends of well-being, justice and development should be conceptualised in terms of people's capabilities to function; that is, their effective opportunities to undertake the

actions and activities that they want to engage in, and be whom they want to be" (Robeyns, 2005, p. 95). Gasper (2007, p. 337) pointed out that because the Capability Approach is "attentive to issues of responsibility and diversity of aims, it contrasts favourably with views that focus on achievements (however understood), because it is attentive to diversity in abilities to transform means into achievements, it is preferable to views that focus on equality of means", both important issues when considering diverse and multicultural workplaces and a rapidly changing, disrupted workforce. The fact that capability is "attentive to" these types of issues, makes our model of competency > capability > professional identity that much more relevant as these issues are of central concern to higher education in general (e.g., Lozano, Boni, Peris, & Hueso, 2012), and to Professional Studies in particular, as will be discussed below.

The concept of capabilities is particularly relevant in the current work-based context, because at the heart of what it means to be an APP is not only the clear demarcation of achievement, including goals, objectives and key performance indicators (KPIs) but also the means and abilities (i.e., one's workplace capabilities) required to achieve them. In this way, the human capacity to function in a specific workplace or at work generally can be framed along a continuum of abilities from basic competency, as reflected in professional qualifications, to higher order capabilities as reflected in the Capability Approach.

However, we recognise that the competency > capability construct is a disputed one (for example in the contexts of society and education, as discussed by Lozano, Boni, Peris and Hueso, 2012), although philosophers of education like Lozano et al. have shown the association of competency and capability as we propose it, and Walker (2005) has considered competency specifically in the context of higher education and professional capability. We also note that while not all authors agree with the association (let alone the continuum) of competency and capability, such an association has been earlier endorsed within the work and learning contexts (e.g., Lester, 2014; Lester & Chapman, 2002).

In our model shown in Figure 3, there are two possible continuums on the path to developing greater capability in work: 1) from Box A > B, which represents a broadening of capability; and 2) from Box A > C, which represents a deepening of capability. Such pathways are comparable to those proposed by Palermo et al. (2017, p. 327), who said in the context of advanced dietetics that higher levels of practice may relate to "generalist and focused specialty practice areas, [that is] profession-specific areas and situations relating to specific client groups or geographic settings".

Pathway 1) represents a broadening of one's capability such that the practitioner develops general capabilities (i.e., leadership, empathy, understanding, insight, foresight, etc. related to 'profession-specific areas') and thereby becomes an *advanced generalist practitioner*. Pathway 2) represents a deepening of one's capability such that the practitioner develops specific or focused capabilities (i.e., specialist skills and knowledge, such as forensic accounting for an accountant, multi-strand curriculum evaluation for an educator, or the theories and methods of restorative justice for a police officer related to 'specific client groups or geographic areas') and thereby becomes what we call an *advanced focused practitioner*. In nursing, this evolution from competency to capability can be seen in the example of a nurse training to become a nurse anesthetist (Waugaman & Lu, 2018), and thereby become an advanced focused practitioner. Thus, advanced practice not only refers to 'specialisation' but also to "expansion and advancement" (Palermo et al., 2017, p. 328). Note that, in keeping with the inclusiveness of the Capability Approach, we do not limit application of our model of advanced practice to managers or executives but believe it relevant to every individual in a workforce who wishes to advance their professional practice and identity.

The promotion of advanced practice thus represents a developmental move along two other pathways, as shown in Figure 3 by Box B > D and Box C > D. APPs extend knowledge, display both competency and capability, are discipline, practice and/or workplace leaders, and have a developed sense of professional identity; they are what we call 'researching practitioners' in the WBL context and are discipline leaders or leading professionals. APPs define advanced

practice as “practice that is so significantly different from that achieved at initial registration [i.e., Box A in Figure 3] that it warrants recognition by professional peers and the public of the expertise of the practitioner and the education, training and experience from which that capability was derived” (APPFSC Secretariat, 2012, p. 4).

Of note for an APP is their sense of professional identity (e.g., Johnson, Cowin, Wilson, & Young, 2012; Moss, Gibson, & Dollarhide, 2014), an advanced trait apparently associated with resilience (Wald, 2015). Professional identity can simply mean self-identification with a profession, but we expand this basic meaning to mean not only the link to a profession but also the embedded sense of personal and professional worth gained from work when the practitioner: a) recognises they are influenced by and in turn influence their work environment and/or community of practice; b) becomes aware of and recognises the value and meaning of their profession; c) gains a positive influence from education and recognises their lifelong learning status; and thus d) incorporates their professional responsibilities into an overall sense of self.

As acknowledged above, APPs demonstrate a sense of task mastery, have a well-developed internal locus of control, and identify as a self-efficacious professional. These among other personal traits distinguish an APP from those with mere competence or even advanced capability. For example, having a well-developed internal locus of control means an APP does not see the events of their professional circumstance as random and outside their control, but rather associates both ‘good’ and ‘bad’ events as entirely controllable by changes in attitude, reflection, reflexivity, effort and preparation. Such personal traits applied professionally to work are obviously not the sole domain of leaders, managers or executives but reflect a well-developed sense of self and of professional identity regardless of who possesses it (Ten Hoeve, Jansen, & Roodbol, 2014).

For the purposes of this paper, we do however associate leadership with being an APP. In other words, a leader may not be an APP, but an APP is typically a workplace or domain leader. Thus,

"given the critical role of leaders in embedding…reforms within their organisations…strong leaders devise effective strategic directions, enunciate them clearly, then build support for them within their organisations" (AGRAGA, 2010, p. 20). In our model, leadership is thereby derived from not only a range of well-developed competencies and capabilities as applied in the workplace, but also from a strong sense of professional identity as expressed through an ability to research professional practice, lead a community of practice, and articulate the parameters and meaning, through theory, advanced concepts and evidence, of work and workplaces as applied to one's profession. Such APPs, we propose, can be found in work-based educational programs which are founded on action research and problem solving, such as those embodied by the principles and spirit of WBL. Moreover, participation in such work-based programs is typically driven by altruism, a concern for the well-being of one's profession and workplace, and a desire to advance professional practice.

Our thesis, as illustrated in Figure 3, is therefore based on the following precepts: competency > capability > professional identity, which equates to and can be operationalised as: professional qualifications (Box A) lead to advanced generalist practitionership (Box B) or advanced focus practitionership (Box C) which are both pathways to advanced practice professionalism (Box D).

Thus, an APP embodies both competencies and capabilities and has a well-developed sense of professional identity and is, as a result, in a position to lead an organisation or community of practice, set strategic direction, embed practice in theory and evidence, and articulate the scope, nature and value of a profession and its work context, thereby potentially enhancing the performance of their organisation and wider community.

Professional studies and examples of advanced practice

It is not within the scope of this paper to present the detail of work-based higher education degrees designed to develop the capacity of governments, private organisations and APPs through learning. However, space does allow an overview of the Professional Studies program at USQ because its Masters and Doctoral postgraduate degree programs have been designed

expressly to help train mid- to senior-career professionals in developing the skills and knowledge of work-based research, higher order cognitive thinking, and workplace change and problem solving. This program is therefore consistent with Australian government and workplace initiatives that acknowledge "teaching styles, education approaches, and questions relating to the role of the educator [which] continue to be present in discussions. Systems that enable knowledge exchange and two-way learning within education and training settings are increasingly preferred" (AISC, 2017, p. 26) in a world of so-called "fluid education" (p. 27).

Elsewhere we have documented the structure of the program (Fergusson, Allred, & Dux, 2018), explored its relation to advanced practice (Fergusson, Allred, Dux, & Muianga, 2018) and reflective practice in work-based research (Fergusson, Van der Laan, & Baker, 2019), and examined its ethos and transformational dimension (Fergusson, van der Laan, White, & Balfour, 2019) and use of first principles of science (Fergusson, Shallies & Meijer, 2019). Moreover, van der Laan and Neary (2016) have investigated the program in the context of access and equity and van der Laan and Ostini (2018) have done so in relation to foresight and university leadership. While not immediately obvious from this published literature is the program's original foundation in principles of WBL as derived from the curriculum of Middlesex University.

We have shown that the program is composed of two strands of learning: (A) a work-based project strand; and (B) a research strand, as shown in Figure 4, with each strand built on the identification of personalised learning objectives. Learning objectives are centrally important in this program because they ground the project (A) and research (B) strands in personal functionings for which extant competencies must be advanced into capabilities in order for the topic of investigation to be fully actuated in what is referred to in Australia as a Higher Degree by Research (HDR).

On these bases, a work-based project (often conducted by what Costley, Elliott and Gibbs, 2010, call 'insider-researchers') leads to the generation of an artefact; that is a work-based product which contributes to organisational improvement (for example a model or framework

for policy direction) and thus leads to not only a postgraduate qualification but other benefits associated with the organisation and discipline as a whole (i.e., the so-called 'triple dividend' [Fergusson, Allred, Dux & Muianga, 2018] of Professional Studies), as shown by (C) in Figure 4. In parallel to the work-based project, a rigorous research design is developed to investigate the veracity of the project. As a result of implementing the research strand, empirical results, often based on mixed methodologies, are used to converge with the work-based artefact resulting in a complete work-based investigation of a relevant phenomenon or problem.

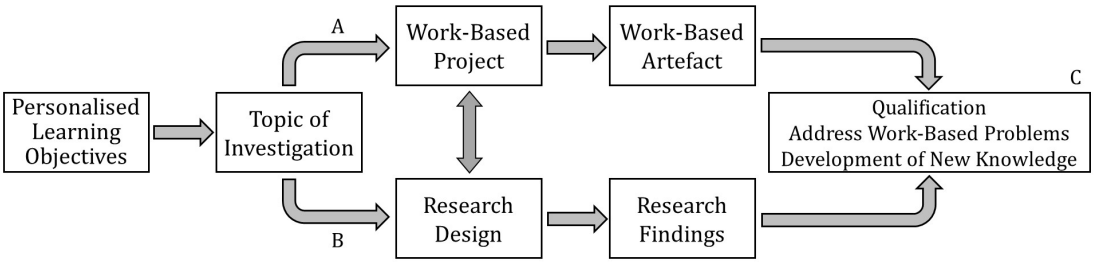

Figure 4: The two-strands of Professional Studies—work-based project (A) and research project (B)—which lead to a triple dividend (C).

Examples of research questions driving such practice-based research include: "What is the organisational impact of disseminating operational intelligence using new software application technology to consolidate and improve information flow in the Queensland Police Service (QPS)"; "What critical business situations do senior managers in multi-national corporations work on, and what are the competency behaviours they use to reach a desired outcome in each critical business situation?"; and finally, "What is the impact of resilience training on recruits in emergency service volunteer organisations in Queensland"? In topics like these, the relevance of both professional competency and capability development as well as organisational improvement is evident. For example, coupling mixed methods research with a work-based project means investigative practices in work can be evidenced by multiple lines-of-inquiry and rigorous data gathering techniques from diverse sources of primary and secondary sources of

evidence (Fergusson, Harmes, Hayes, Rahmann, 2019), not something always associated with WBL.

We conclude that this transdisciplinary approach to WBL and research not only aims at knowledge and skills development but can be applied to worthwhile research projects which seek to solve work-based problems and drive innovative knowledge on a foundation of altruism leading to organisational improvement and social advancement.

In the present context, the proposed shift from competency > capability > professional identity in the development of advanced practice through Professional Studies can be seen in the example provided by Fergusson, Allred, Dux and Muianga (2018, p. 28) in which one doctoral student described his expectation that WBL would be "a linear learning process—a step-by-step process of building knowledge and skills" (hence associated with competence) but he found it actually to be "nonlinear and non-sequential, as a result of the self-paced, learner-centred pedagogy" (requiring the development of capability). According to this student:

> The doctoral journey has been one of continual learning; everything which has preceded it has helped prepare [me] for the journey—each life-stage has presented its own learnings, and each has supported subsequent growth and opportunity. I therefore liken the journey to that of a black belt in karate: each rank prepares the participant for the next grade, but the black belt is not the end of knowledge; it is rather the beginning of new knowledge. The aspiration is thus to harness the concept of *Shoshin*, in which 'there are many possibilities [in the beginner's mind], but in the expert's [mind] there are few' (p. 29).

Figures 5 and 6 operationalise our APP model using the work-based projects and research of two Professional Studies doctoral students. In each case, the model provides evidence of competencies leading to capabilities and subsequently to professional identity, with each exemplifying a more professional attitude and approach to work. As the Professional Studies program only attracts mid- to senior-career professionals, most with many years' experience in government, private practice or sole practitioner work environments like insurance, energy,

project management, health and safety, and coaching, students already have a reasonably well-developed set of competencies and capabilities and sense of professional identity when they enter the program. Practice domains for whom WBL is attractive in the Professional Studies program include nursing and allied health, education, policing, correctional services, and fire and emergency services, among many others. However, student competencies, capabilities and identity in relation to scholarship at the postgraduate level—particularly critical thinking and logic, academic writing and publishing, and mixed methods research—is somewhat limited, and these are among the areas where we would expect the greatest advance in professionalism as a result of conducting the following work-based projects.

The business and learning context for the example in Figure 5 is project, program and portfolio management (P3M). In order to operate effectively within this context, a basic qualification, such as a bachelor's degree in business management (specialising in project management or a professional VET certification), is required, although some managers may have a master's degree or higher-level specialist technical expertise. However, to operate at higher levels within P3M practice, the practitioner is required to develop either broader or more focused sets of capabilities related to specific corporate or business strategies and results. The choice of P3M practitioner by a company or government agency is therefore critical in improving and sustaining an organisation; hence, in most P3M cases, it would be a senior manager who is involved in executive decision-making.

To this end, a more general P3M capability would be the skills and knowledge associated with involvement in strategic business planning, forecasting and managing programs and project prioritisation, managing workforce expertise through professional development pathways and coaching, managing organisational change and liminality, managing benefits realisation, and/or an ability to utilise cultural competence in the workplace. Similarly, a more specific or focused capability might involve the ability to work with supply chain management and logistics, or to understand, interpret and apply knowledge related to a return on investment (ROI) in any given

project or program. These types of capability are not generally found in entry-level or even established P3M practitioners and represent a broadening or deepening of basic competencies.

An APP, on the other hand, must have the ability to integrate and apply holistic P3M management systems for sustained project, program, portfolio, and/or organisational functionings as measured against expected strategic and business performance indicators. These key performance indicators are typically devised at personal, program, project and business-specific levels, and are almost always linked to organisational maturity (Bourne, 2016). Thus, an important component of our APP model when applied to P3M is a well-formed and agreed incentive program. Such a program should not be understood simply as a bonus scheme, rather it relies on acceptance of a professional development pathway that is framed and sponsored by the organization (i.e., what we are calling an 'APP' in this paper).

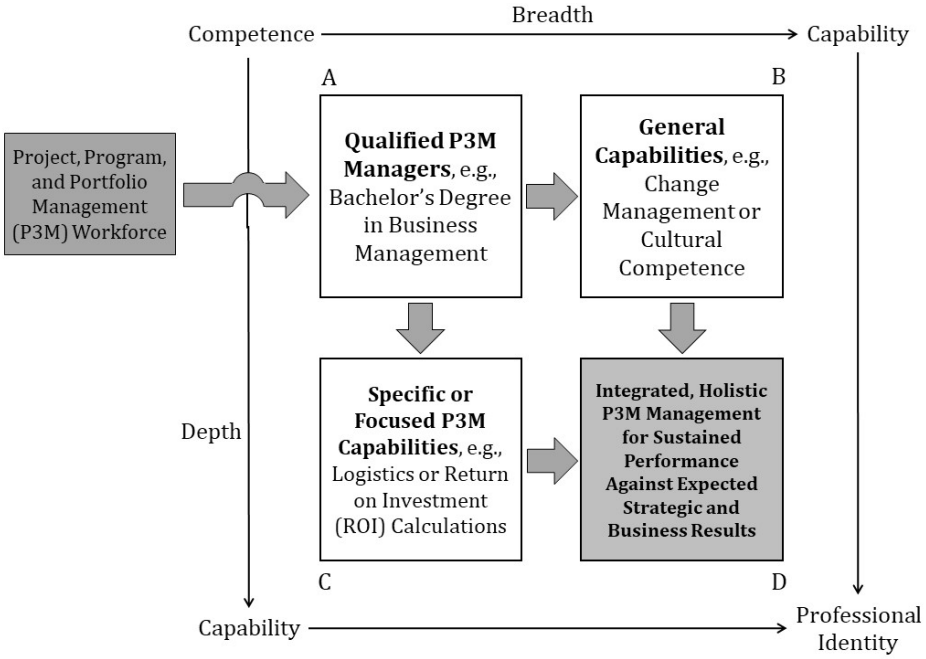

Figure 5: Example of advanced project, program and portfolio management practice.

The five case studies associated with this P3M doctoral study involve both the private and public sectors. Although based in Australia (i.e., including case studies in Queensland, New

South Wales, and the Australian Capital Territory), the study includes government departments and agencies in Malaysia and Sri Lanka. The participating organisations have been chosen because they embody how improvement needs to be contextualised rather than sought through the simple application of standardised, inflexible P3M models in that one sector. Of note also are the three levels of management (i.e., portfolio, program and project) which are involved in an integrated P3M improvement initiative. For example, general and regional managers (i.e., portfolio managers) are involved in this research.

The study also attempts to highlight that no one tier of management produces corporate and cultural change, and thereby aims to reinforce how the Professional Studies program uses WBL and research in a number of settings to contribute to the acceleration of advanced practice in both the researching practitioner and in P3M practitioners operating in these three countries. Importantly, it provides a flexible formula for organisational change and a well-framed formula for personal improvement as well as the transformation of team leadership.

Correspondingly, in Figure 6 advanced practice work-based research being conducted with supervisors, leading hands, business owners and their apprentices in Germany's Mittelstand (a type of small- to medium-sized enterprise) Handwerk (or craft) industries seeks to explore the efficacy of communication between supervisors and apprentices through a combination of visual and verbal techniques, and to thereby enhance organisational culture. At its most basic, the practitioner is required to have qualifications and work experience, and hence a degree of socio-cultural competency in frontline management training and change management processes.

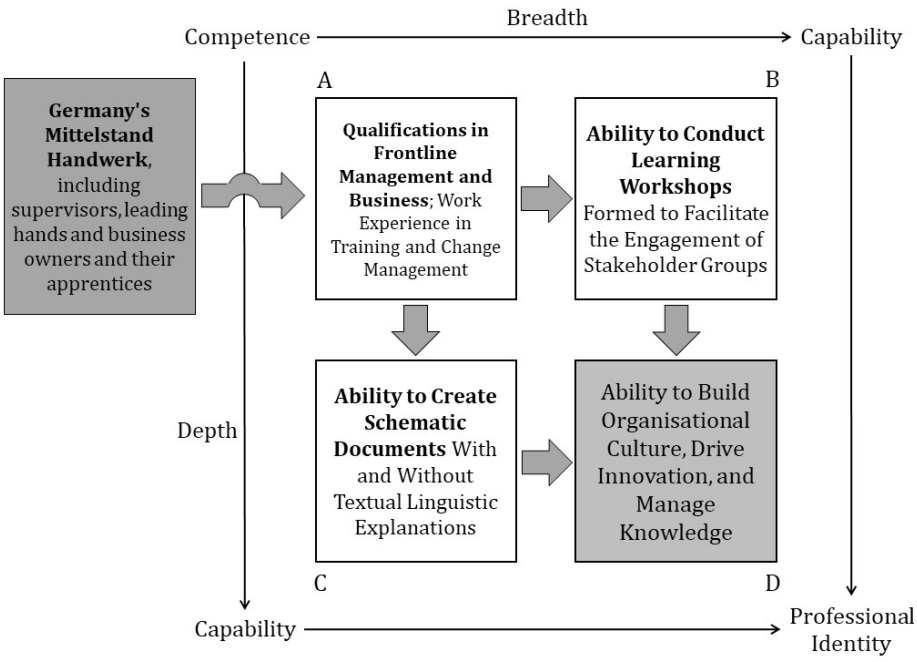

Figure 6: Example of advanced WBL and communications practice in Germany's Mittelstand Handwerk industries.

To develop a more comprehensive capability in communications, the practitioner will in this case conduct workshops to facilitate engagement of stakeholder groups, but in parallel is also required to establish and apply focused capabilities associated with the development of advanced work-based documentation relevant to each Handwerk business, which may or may not include textual, linguistic explanations. These two pathways of learning represent the broadening and deepening of competence which will be required to successfully conduct the work-based research in Germany.

However, to fully advance his professionalism, the researching practitioner in this project will also be required to develop the ability to build organisational culture (i.e., through the application of socio-cultural competence), drive innovation, and foster the creation and management of new knowledge. In this case, the advanced functioning as a result of the work-based project and research will not only include an enhanced professional identity for the practitioner but also (possibly) a contribution to the organisational performance of the

Mittelstand Handwerk businesses themselves. This type of WBL project leads to what in this paper we have called advanced practice professionalism.

Conclusion

We have explored the relationship between competency, capability and professional identity and explained how the Professional Studies program at USQ apparently contributes to the development of advanced practice in Australia, specifically how it relates to non-routine cognitive work. We have shown that capability is a conceptually higher order practitioner ability than competence, and thus parallels the need for non-routine cognitive job capability. According to Woods (2013), capable advanced practitioners not only know 'what' but also 'how' to learn, and such capabilities allow practitioner-led learning reflection and reflexivity, driven by holistic considerations and a self-motivated desire to improve (Lozano, et al., 2012). Such earlier views in a work-based context now suggest advanced practitioners are "leaders who can influence, inspire and innovate to solve practice problems, to change practice and show evidence of their impact [on work environments]" (Palermo et al., 2017, p. 332).

As cases in point, for nursing in Australia, "it is clear that advanced practice nurses are working to the extent of their scope of practice, demonstrating the skills and capabilities required to meet the complex health care needs of the communities in which they practice" (Parker & Hill, 2017, p. 197) and for educators such advanced practice "sees teachers' research and enquiry skills and predispositions as helping to renew [their] professional identity and practice…[with the conclusion being] that a culture needs to be encouraged where engagement in and with research becomes an everyday part of teachers' professional identity and practice" (Lindsay, Kerawalla, & Floyd, 2018, p. 2321).

Furthermore, according to published data from both government and industry sources, Professional Studies programs, such as the one offered at USQ, are meeting an 'urgent' national priority of filling skill gaps within the space of policy development, research and project management (e.g., AISC, 2017). Those mid- to senior-career professionals from around the

world who undertake the Professional Studies Master's and Doctoral HDR programs are engaged in innovative work and authentic research and thereby academically contribute to new knowledge production while addressing problems in the organisations, industries and governments with which they work. This, we noted above, is called the triple dividend of Professional Studies; hence, feedback from candidates indicates "the doctoral journey has been one of continual learning; everything which has preceded it has helped prepare [me] for the journey—each life-stage has presented its own learnings, and each has supported subsequent growth and opportunity" (cited in Fergusson, Allred, Dux & Muianga, 2018, p. 27).

It is for these and other reasons outlined in this paper that we propose the shift from competency standards to capability development is a precursor to enhanced professional identity and higher order thinking, and ultimately to the status of an advanced practice professional on the basis of which the researching practitioner can lead and guide constructive change at work. This shift is made possible by higher education programs which focus on WBL and research, and thereby fulfill the goals of, in this case but probably also applicable elsewhere, the Australian Government and broader worlds of work in Australia which have identified the need for individuals who can navigate and successfully perform non-routine, higher order, cognitive work.

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The role of industry in implementing Work-based Learning Pedagogy

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Work-based Learning (WBL) models being implemented across the globe highlight the importance of the role of industry in making the work-environment conducive to learning. This paper discusses various parameters that contribute to build a favorable ecosystem for successful implementation of WBL pedagogy. The findings are based on practices followed by critical observation of an integrated Work-based Learning model based on M.K.Gandhi's Nai Talim principle of 'Learning through Working' (M.K.Gandhi 1968) *implemented in the state of Maharashtra, India.* (MKCL 2001)

In this system, the open universities in collaboration with industries offer work-based degree courses to suit the nature and needs of the businesses (Sawant 2017) *and admit the youth especially from the economically weaker sections of the society at affordable fees. The businesses/industries offer paid internships to the students for performing at the workplace.*

The interns build the theory based on the work performed. The seniors in the industry assist the interns in synthesizing knowledge through daily reflection sessions by accessing eLearning study materials. The interns record their reflections through blogs and undertake evidence-based comprehensive assessment sessions on the eLearning platform on the work content and related course modules.

The interns thus obtain two types of credits viz. work credits given by the industry appraisers and knowledge credits earned on the eLearning platform leading to the award of a degree at the end of three years.

It is in this context and in view of the crucial role of the industries offering real life work-environments, the key aspects of the WBL ecosystem desirable at the workplace are discussed and analyzed.

Keywords: Work-based Learning, Role of industry, Pedagogy, WBL Ecosystem

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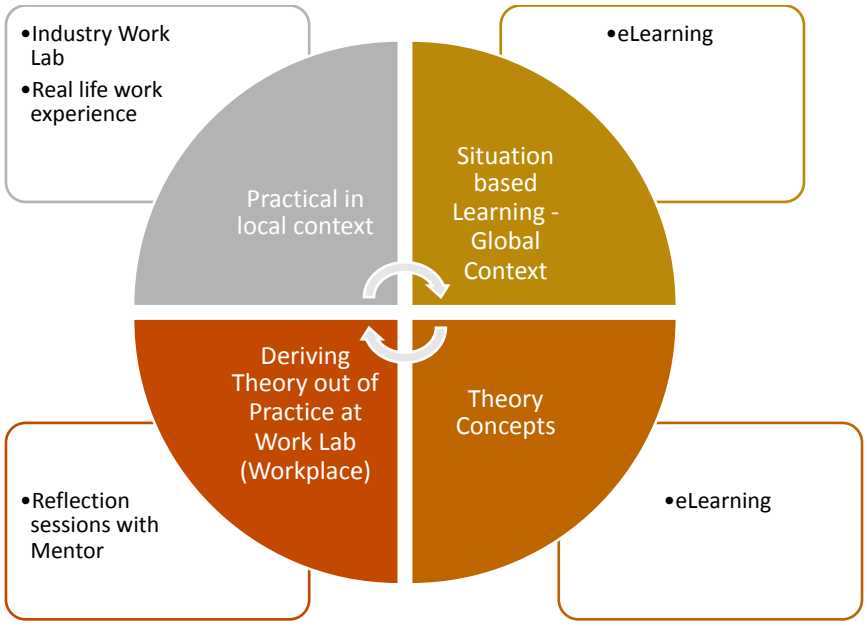
Introduction

Work-based Learning (WBL) model under study attempts convergence of working and learning. (Vinoba, 955) Industry is involved in the academic proceedings of undergraduate WBL students, without compromising on the business objectives, goals and processes within the industry settings.

From the student's perspective the WBL model under study is as follows: *Figure 1*

Figure 1: WBL model

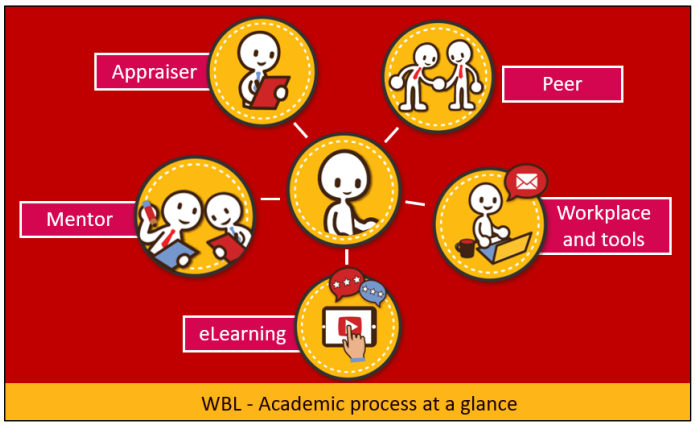


(Revati N 2017)

WBL students gain hands-on practical skills in a local context through exposure to real life work experience provided by industry. Their connection with global context and best practices is established through situation-based eLearning modules before and after office hours. eLearning content covers theoretical concepts and eAssessments linked to the curriculum stipulated by the University. Finally, the derivation of theory out of practice at the work-lab i.e. industry workplace is enabled through reflection sessions conducted by mentors (senior professionals/ industry experts) from the industry.

Various components contribute to the WBL pedagogy. (Figure 2)

Figure 2: WBL Academic process at a glance



The WBL ecosystem including real-life workplace, peers, appraisers, mentors and eLearning environment contributes to offer 'Learning through Working' experience for WBL student.

It is in this context, the role of industry in creating WBL ecosystem within the workplace and its key parameters is discussed.

Methodology

Research literature provides examples of WBL pedagogies. Joseph Raelin in his book – Work-based Learning (Raelin, 2008) conceptualizes a model of WBL that combines explicit and tacit forms of knowledge with theory and practice modes of learning. The significance of the students' own reflections is emphasized in the model, and it is considered important to articulate the tacit knowledge that many workplace practices are based on. Michael Eraut (Eraut, 2004) provides an analytical framework that focuses on factors that affect learning in the workplace. He identified both - learning factors (confidence, support and challenge) and context factors (allocation of work, relationships at work and expectations of performance).

From conceptualization of both these models and the WBL model under study, it can be derived that the role of industry offering real-life workplace for implementing WBL is crucial and it comprises of role of actors involved, the processes and policies adapted by industry.

Further, in order to ensure confident, committed and performing WBL students (SFIA: Levels of responsibility 2003-2020) with a sound exposure to formal theoretical knowledge, it is necessary to implement enriching academic processes within the workplace.

Focus of this paper, therefore, is to document the role of industry in terms of key parameters essential for setting the WBL environment within the workplace.

Process that led to documentation of key parameters of WBL ecosystem within the workplace and further analysis was as follows:

1. ***Mock interviews:*** Mock interviews of Third Year students were conducted.
    a. *Rating analysis:* Analysis of ratings was done and it was found that the performance of the students varied significantly.
    b. *Work Lab-wise analysis of ratings:* This led to further study of data and it was observed that the students who performed well in the mock interviews and those who did not, belonged to different work-labs.

2. ***Identifying WBL implementation practices at a work-lab where students performed better in mock interviews:*** It was decided to identify, observe and if necessary conduct surveys to document the practices followed by company within the workplace as a part of WBL implementation. This exercise was planned for the organization where students performed well in the mock interviews.

3. ***Key parameters of WBL Ecosystem:*** During observations, few key parameters forming a WBL environment within the workplace were identified. This yielded interesting findings. Key actors, processes and functions or tools of the WBL environment within the workplace are documented based on the findings.

4. ***Student Survey:*** Further, a survey of students was conducted to understand if similar practices were followed by other companies, where the students did not perform well in the mock interviews.

5. ***Comparative Analysis:*** Comparative analysis was done to check if WBL environment is to be recommended for replication.

Mock interviews

Mock interviews were scheduled for third year students pursuing WBL degree program. The interviews were conducted by senior professionals (senior general managers and general managers).

Primary objectives of this exercise was to give a close-to-real kind of experience of interview to the students. Researches state the importance of conducting mock interviews and job-search seminars for undergraduate students. (Reddan, 2008) Students develop a reasonably high level of confidence in preparation for "real-world" scenarios.

This is particularly found to be essential for WBL under study, because WBL students complete their tenure of association with the industry / organization offering work-lab as they receive the degree. While the industry/ organization has a choice to retain the students who would have attained three years of work-experience, it is not mandatory for them to continue any student.

It is in this context and in order to ensure the readiness of students for real-life interview experience, mock interviews were conducted.

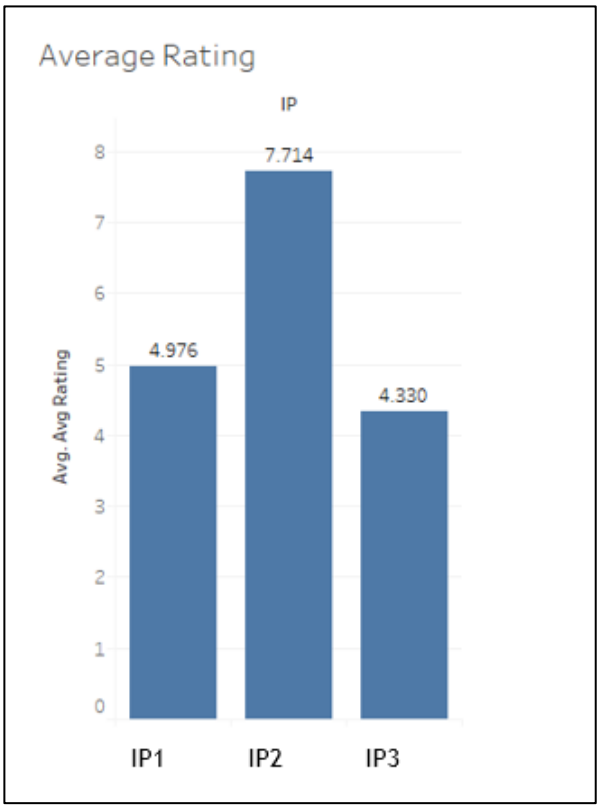
Findings and Outcome

Analysis of ratings received in the mock-interviews was done.

Rating parameters were:

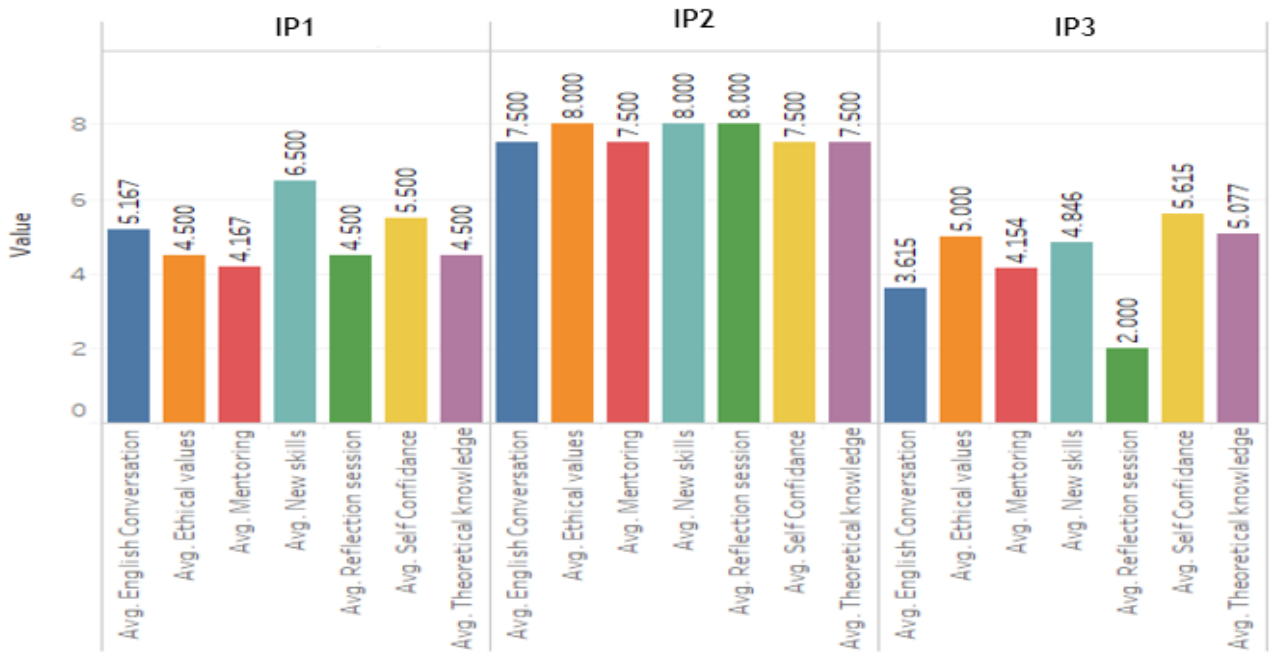
- English Conversation Abilities
- Ethical Values
- Exposure to Skills (New Skills)

- Interactions with the mentor
- Self Confidence
- Theoretical knowledge



IP: Industry Partner (i.e. Work-Lab)

Figure 3: Work-Lab wise average ratings of students



IP: Industry Partner (i.e. Work-Lab)

Figure 4: Work-Lab wise Average Interview Scores for each parameter

Qualitative feedback

Qualitative feedback was also received from the interview panel members. Few students lacked confidence while appearing for the interview and were not able to establish even the eye-contact with the interviewer. Few of them were unable to explain the work they are doing. Clarity about the job role they are looking for was found to be missing in some cases. However, some of the students were extremely clear about their current job role, their strengths and their aspirations. They did well in the interview. They were even aware of the way they were learning. They could mention that their course is based on 'WBL pedagogy'. However, though were not able to express it in further technical terms.

Few interviews were conducted over phone and mixed observations were received from the interviewers on the similar lines of face-to-face interviews.

This feedback and the analysis of ratings of mock-interview led to investigate if the students who did well and who did not, belong to different work-labs. Since the eLearning input was

same for all, it was hypothesized that difference in performance could be related to workplace environment.

It led to further inquiry of WBL ecosystem at the workplaces of the students who performed well in the mock interviews.

The findings of this inquiry may lead to a probable hypothesis that in case of availability of WBL ecosystem at the workplace with certain key parameters, the performance of the students as expected by the industry for recruitment is assured after three years.

While such a hypothesis needs to be closely inspected and validated by a structured research, the current analysis creates a worthwhile base for establishing such a correlation.

Key practices implemented at Work-Lab

Work-reporting

A format for reporting every-day work is shared with the WBL students. It is observed that students perform the tasks satisfactorily however are not able to form complete and precise sentences for reporting the task in English language. Hence, initial format of work-report is in form of 'fill in the blanks'. This is on the basis of the scaffolding technique so as to help students report facts about the tasks, their individual roles in completing the tasks etc. Gradually the students are given sheet with open ended questions and are asked to fill up the work report under broad headings such as: Tasks allotted, Role performed, Skills attained, Time taken, Steps followed, Challenges faced etc. (The Writing Process: A Scaffolding Approach, 2015)

The objective of using this format with leading questions at a broad level is to assess if the students are able to explain the tasks completed in a professional and theoretical language.

Qualitative analysis of the work-reports on following parameters was done.

1. Specificity in explaining the task
2. Clarity about the method
3. Clarity about expected output
4. Clarity about purpose
5. Clarity about challenges

6. Specificity in explaining the solution
7. Is the skill mentioned by the student related to the work or task
8. Meaningful Expression

Every day reflection

Senior members of work-lab conduct reflection sessions with the students every day. The attendance to the sessions is mandatory for all students.

Reflecting on work-reports – Peer exercise

A peer exercise in the form of questions & answers is conducted during every day reflection session. (Rivers, 2017)

The objective of the exercise is to check if:

- Students can ask meaningful questions
- Students can answer questions reasonably well
- Students can understand the work done by others

The work reports submitted by the peers are circulated. Every student is given access to two work-reports. Minimum two questions are to be asked by each student after going through the report in detail. Fact-based and obvious questions such as – 'how much time did it take to complete the task' or 'what was your role' are discouraged and discarded. Students are expected to ask questions so as to learn new things.

Initially the students are required to be prompted. However, after following the practice for more than 1 month, meaningful questions are asked by peers For ex. - In what way your work is linked to the business of the company? Which step in this process could have been avoided?

Enrichment activities

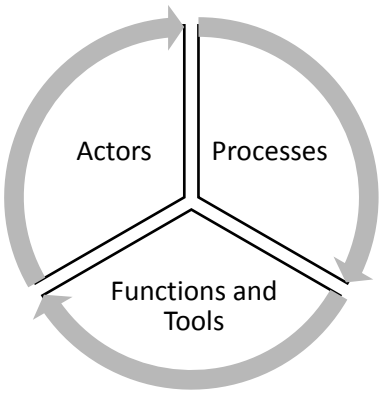
Special activities in order to offer a joyful environment to WBL students are conducted. These include:

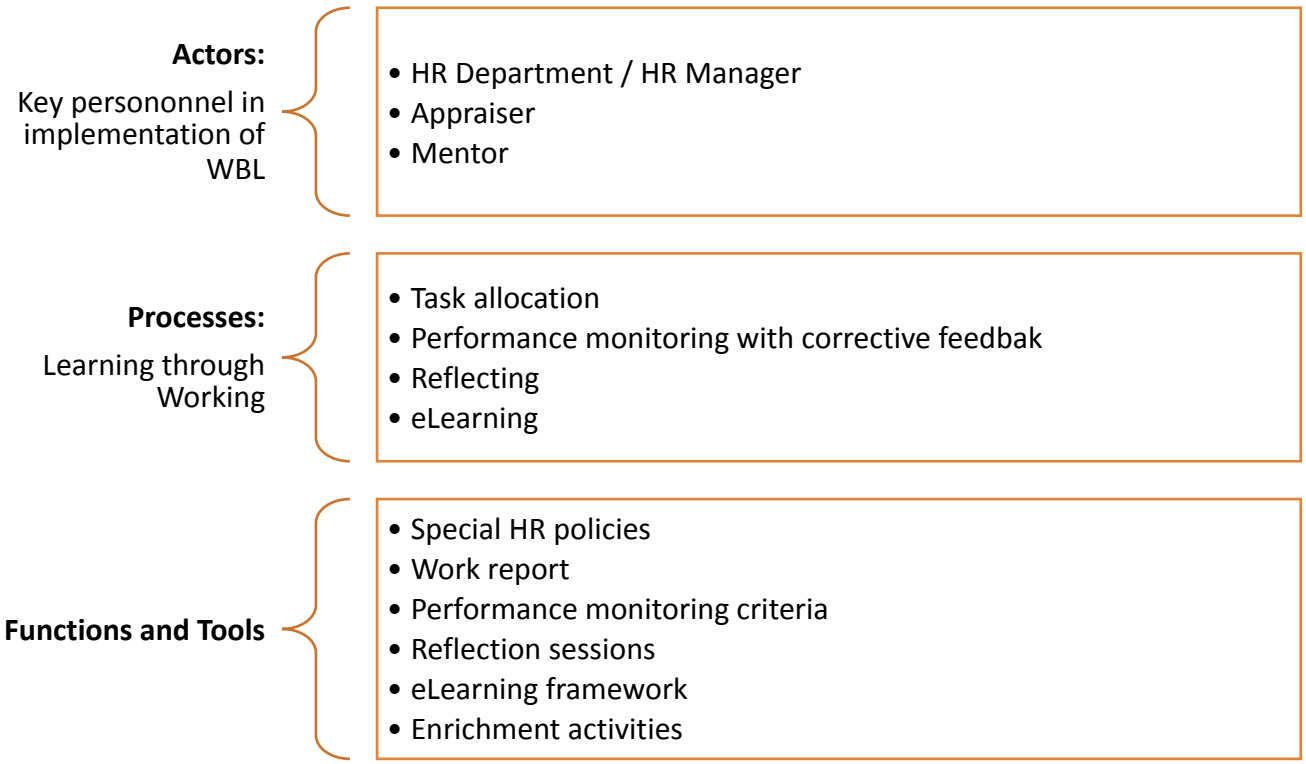
- Reading sessions
- Spoken English sessions

- Involving students in organizational events
- Fitness activities
- Sports competitions
- Presentation competitions
- Giving responsibility to conduct few activities for employees of the organization

WBL Environment within the workplace: Actors, Processes and Functions

After analyzing findings of all the key practices implemented within a work-lab where students performed better in mock interviews, it is observed that WBL ecosystem is an interplay of actors, processes and functions & tools within the workplace.





Outcomes and impact of implementing aforementioned processes

Actors perform various functions and use tools to execute processes leading to successful implementation of WBL .

Mentioned below (Table 1) the inter-links along with few examples of functions performed and/or tools used and their impact.

Table 1: The inter-links along with few examples of functions performed and/or tools used and their impact.

Actor:	**HR Department / HR Manager**
Process Example (1) :	**Special cadre for WBL Students / Interns**
Function / Tool	**Outcome/ Impact**
• Special HR policies (Ex. PF, Holidays, Special timings for eLearning)	• Students (undergraduate, between the age group 18 – 20), get a blended environment of learning and working. Many may suffer from homesickness because of migration. Such relief policies help in building their commitment towards learning and working • Importance of WBL implementation at organization level gets highlighted
• Uniforms	• Policies like Uniforms benefit students coming from different backgrounds, mostly from underprivileged sections of the society. Such policies also give organization-wide recognition to WBL program
• Special events such as sports, Cultural events, Picnics etc. including Enrichment Activities)	• Special events help students showcase their talents. This is necessary because the students do not get a traditional college environment.
Process Example (2) :	**Task allocation**
• Rotation within teams	• Students get an exposure to various departments/ functions of the organization • Students get diversified work experience during the three years of internship

Actor:	**Appraiser**
Process Example (3):	Performance Monitoring with corrective feedback
Function / Tool	**Outcome/ Impact**
• Work Reports	• Every day interactions • Personal mentoring and guidance • Friendly and caring relationship • Special project assignments • Posing challenges • Involvement in the student's learning • Encouraging reflections

Actor:	**Mentor**
Process Example (4):	Reflection
Function / Tool	**Outcome/ Impact**
• Reflection Sessions	• Helping students derive theory out of practice at the workplace

Conclusions

There is a scope for determining a positive effect on the performance and overall development of the students, provided they are given a WBL ecosystem within the workplace that ensures 'Learning through Working'. Appropriate use of work-based learning management system can help in replicating the key practices for implementing WBL effectively. The key challenge here is to ensure motivation and commitment of actors involved. Continuous training, retraining, orientation of appraisers and their inputs in order to further streamline the WBL processes in the organization is crucial for the successful implementation of WBL.

Notes on contributors:

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