Learning for Life and Work in a

Complex World

Volume 38

Refereed papers from the
38th HERDSA Annual International Conference

6 - 9 July 2015
Melbourne Convention and Exhibition
Centre (MCEC), Melbourne, Australia

This research paper was reviewed using a double blind peer review process that meets DIISR requirements. Two reviewers were appointed on the basis of their independence and they reviewed the full paper devoid of the authors' names and institutions in order to ensure objectivity and anonymity. Papers were reviewed according to specified criteria, including   relevance to the conference theme and sub-themes, originality, quality and presentation. Following review and acceptance, this full paper was presented at the international conference.

"Fit for Practice: the tale of two professions."

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In response to demands for health graduates, who are "fit for practice" the learning outcomes for health profession' University programs are now typically defined by professional competency frameworks. Students are deemed work ready when they have demonstrated these competencies, at an appropriate level; opportunities for demonstration are provided through good curriculum design focussed on alignment between specific competencies and their assessment. This paper compares and contrasts the expectations of graduates for the two health disciplines of Pharmacy and Speech Pathology. The related impact of how professional accreditation processes conceptualise the requisite knowledge, skills and attributes of graduates and the effect this has on assessing, evidencing and evaluating these is examined. We also discuss the implications for university teachers and the tensions around educating professionals entering uncertain, changing and complex practice environments where graduates need to be able to constantly adapt and develop skills throughout their professional life.

Keywords: competency, Pharmacy, Speech Pathology

Introduction

Globally, there has been a paradigm shift in the preparation of graduates who are employable or, in health sciences terminology, "fit for practice". Curriculum has moved from a focus on mastering a coherent body of discipline knowledge to being able to use this knowledge in the workplace. In Australia this change underpins the move to articulating learning outcomes that are expected as a result of a university education. These include 'meta level' outcomes such as university graduate attributes as well as more specific statements such as those of the Australian Qualifications Framework (Australian Qualifications Framework, N.D.). that characterise the knowledge and skills a graduate should have and be able to apply for different qualification levels. Internationally this is mirrored in guidelines such as the Bologna Qualifications Framework (European Association for Quality Assurance in Higher Education, 2005). In Australia the shift to outcome achievement has coincided with a period of rapid implementation of health care reforms, which include a focus on competency-based education as a means to ensure graduates are competent for practice in health care environments. These competencies can also be considered the learning outcomes for professional preparation programs. However, the way in which the competencies are conceptualised in the practising discipline or the education sector or a combination of both of these can result in mismatch between expectations of employers and educators regarding important features of competent or work ready graduates and relevant curriculum practices.

We analyse two different health professions — Pharmacy and Speech Pathology, for which we demonstrate on one hand, a disconnect, and on the other hand alignment between university and profession expectations. The implications of this for curriculum, particularly assessment of competency, will be explored along with challenges facing educators for both professions in preparing graduates for practice in complex and constantly evolving work environments and practice.

Accreditation: where universities and workforce connect

All health professions are subject to regulation, both informal and formal. The goals of regulation are multiple, the most obvious being part of a strategy to ensure the community can have confidence that they are accessing quality and safe health care. Less obvious is the role that regulation has in defining and defending professional boundaries (Eraut, 1994). Both roles are played out in the accreditation of university programs for recognition by employers with the implication that this will ensure graduates are fit for practice.

The regulations that apply vary from profession to profession. Pharmacy is a regulated profession and is subject to the Australian Health Practitioner Regulation Authority (AHPRA). This body has established nationally consistent legislation underpinned by individual profession National Boards with a primary role to protect the public. Thus the Pharmacy National Board sets standards and policies that all registered Pharmacists must meet. The Pharmacy Board uses its oversight of accreditation of university programs by the Australian Pharmacy Council (APC) one of its strategies to ensure a competent workforce. The Australian Competency Standards Framework for Pharmacy was collaboratively developed by the profession through a national consultation and describes *"the skills, attitudes and other attributes (including values and beliefs) attained by an individual"* (Competency standards framework for Pharmacists in Australia., pp 3). The competency standards are grouped together into areas of professional endeavour or domains of professional responsibility and then further broken down to standards and elements (Competency standards framework for Pharmacists in Australia).

Speech Pathology, on the other hand, is an unregulated profession despite being a core part of the health workforce. Therefore Speech Pathology Australia (SPA) has become the de facto registration body and is recognised as the national professional standards organisation for Speech Pathologists in Australia. Employers seek Speech Pathologists who have graduated from SPA accredited programs and universities collaborate with SPA to ensure programs' learning outcomes align with and meet the standards described in the Competency Based Occupational Standards (Competency-Based Occupational Standards for Speech Pathologists, 2011). This document describes 7 units of competencies for practice which represent key areas of professional activity and specifies the standard required for entry to practice i.e. graduation.

The level of employment readiness expected of graduates from the two professions and the responsibility and process for the final determination of competency differs. Speech Pathology graduates are deemed to be competent based on graduating from an accredited Speech Pathology program and having therefore passed assessments that enable them to demonstrate the CBOS competencies to the appropriate standard. They are expected to be at 'entry-level' and capable of semi-autonomous practice on graduation with access to professional support, clinical and managerial supervision to *"enable them to perform*

competently" (Competency-Based Occupational Standards for Speech Pathologists, 2011, pp 2). Therefore Speech Pathology graduates are expected to be 'employment ready' and are deemed to be so based on assessments designed by university educators and accredited by Speech Pathology Australia. This creates a close connection between the discipline and the university.

Pharmacy, on the other hand, demonstrates a degree of disconnect between the university and discipline's expectations. Graduates are not recognised as competent or fully 'employment ready' on graduation and must complete an internship period of twelve months with specified requirements for supervised practice and assessments determined by the Pharmacy Board and guided by the Competency Framework (Competency standards framework for Pharmacists in Australia). Thus competency for practice in Pharmacy is determined by the Pharmacy Board and informed by employers and not as part of a university education.

The accreditation processes also differ. In Speech Pathology the focus of the accreditation is on evidence of competency achievement based on program learning outcomes and assessments. Programs must ensure that the determination of students' competency is evidenced through assessed performances in the workplace across a range of practice areas, or where this is not possible, through authentic clinically based assessments (Speech Pathology Australia, University Accreditation). Pharmacy accreditation is focussed on determining whether the graduates of an approved program of study are expected to be able to achieve entry level Pharmacy competencies by the end of an internship period (Competency standards framework for Pharmacists in Australia). It is noted that

> "*some entry-level competencies may be achieved during the Pharmacy program, however, the majority will be achieved through the application of knowledge and skills in the workplace during their internship*" (Australian Pharmacy Council,2012, pp 15).

The differences in the way competency is determined for Pharmacy and Speech Pathology results in different expectations of assessment which will be discussed in more detail in a later section of this paper. Before proceeding with this analysis a brief overview of the way in which competency can be conceptualised and how the competency frameworks for each profession are defined and operationalised for assessment is required.

Defining competency to support assessment of work readiness

As described in the previous section, the assessment practices for both Pharmacy and Speech Pathology are guided by competency frameworks. Accreditation processes, primarily located within the profession for Pharmacy and within the University for Speech Pathology, aim to collect evidence that these competencies have been achieved to the appropriate level. The ways in which competency and related standards of achievement can be defined and operationalised appear to be infinitely variable and highly contested. It is beyond the scope of this paper to trace all of these influences but we will address those that have directly contributed to the assessment practices in current use in health professions and specifically Pharmacy and Speech Pathology.

Terminology in this area is confusing as frequently the notions of competency, standards and assessment practices are conflated. The development of competency frameworks in Australia has been fundamentally influenced by the work of Gonczi (1992) and Hager, Gonczi, & Athanasou (1994). This work viewed competency as an intangible construct that must be inferred from observed behaviours. These authors also proposed that attributes such as

knowledge, skills and attitudes do not, on their own, necessarily translate into competent performance. Furthermore competent performance in the workplace does not follow on from being able to complete a set of specific tasks (each of which is often termed a 'competency'). It has been suggested that competencies should be conceptualised as a combination of both professional capacities and skills to more holistically capture the complexity of practice and that assessment should occur in the workplace (Gonczi, 1992; Hager, et al., 1994).

CBOS was developed as a national collaborative project between the discipline and universities. The connections between the profession and university programs have been further defined and strengthened through a series of innovative and collaborative learning and teaching projects including an Australian Research Council Linkage grant, with SPA as industry partner, , that aimed to develop a valid assessment tool of student competency. The research included broad consultation with educators, Speech Pathologists and students to inform assessment design and subsequent trialling. The resulting tool, Competency Based Assessment in Speech Pathology (COMPASS$^©$) came into use in 2006 and is now in its second edition (McAllister, Lincoln, Ferguson, & McAllister, 2013) and integrated into curriculum of all Speech Pathology programs nationally. COMPASS$^©$ assessments are based on the clinical educator's rating based on multiple observations of the student's performance in the workplace over time.This assessment result is a core part of the process of determining student competency prior to graduation.

COMPASS$^®$ includes two types of competencies and describes observable professional behaviours in the workplace from which competency can be inferred. There was strong consensus that CBOS occupational competencies were key. However, additional professional competencies, such as communication, lifelong learning, clinical reasoning and professional behaviour were also identified as important to support ongoing competency post-graduation (McAllister, Lincoln, Ferguson, & McAllister, 2011). A model within which occupational competencies were integrated, and which enabled the development of professional competencies, and vice versa, was proposed. In turn, these competencies are theorised to arise from combinations of relevant knowledge, skills and personal qualities (McAllister et al 2011). The model supports previous work (Gonczi, 199; Hager, et al, 1994) in the assessment of competency in an integrated fashion in a workplace context, rather than as separate de-contextualised component parts. Assessment must also concern itself with competencies that support ongoing competent professional practice such as lifelong learning and clinical reasoning (McAllister et al 2011).

The disconnect between the Pharmacy discipline and educators is apparent in accreditation documentations where the endpoint for Pharmacy programs is not clearly defined (Australian Pharmacy Council, 2012). Furthermore descriptions of competence focuss on knowledge which is not integrated with professional competencies to create a holistic representation of the complexity of professional practice. Concern over this disconnect has led to a recent initiative to define and describe learning outcomes in the Pharmacy discipline. Collaborative work over a number of years between academics, students and APC has had significant impact on strengthening the connection between universities and the discipline. Key outcomes have included collaboratively developed learning outcomes and exemplar standards for Australian Pharmacy programs (Stupans, McAllister, Clifford, Hughes, Krass, March & Woulfe, 2014). The learning outcomes and standards referenced recent general and Pharmacy specific competency related frameworks. The resulting Pharmacy Learning Outcomes and Standards (PhLOS) comprise a set of outcomes that capture the nature of professional work in Pharmacy, are holistic and integrated and include both occupational and professional

competencies which cannot be achieved without drawing upon relevant knowledge, skills and attributes. These are accompanied by descriptions of example behaviours that indicate a student is able to demonstrate these outcomes to a suitable standard (Stupans, et al., 2014). The PhLOS have been positively received by the profession and are currently under consideration for inclusion in accreditation standards; however, to date, no decision has been announced.

Both the PhLOS and COMPASS$^®$ include performance standards for the competencies/outcomes. University assessment practices have always required identifying the minimum standard of performance required (expressed as a Pass grade) as well as higher levels of performance. However it is critical to determine a 'good enough' level of performance for a graduate health professional and link this clearly to competency based outcomes so as to guard the safety and quality of health services. This can be conceptually informed by developmental performance continua over the course of a degree and described by university assessment rubrics. However, designing and incorporating authentic competency based assessments is challenging and complex for both professions.

Authenticity and competency based assessments

Assessment tasks must provide opportunities for students to demonstrate behaviours from which it can be inferred that they are competent for practice in the case of Speech Pathology or appropriately prepared for internship for Pharmacy. We have argued that this will necessarily involve solving authentic problems that can only be resolved successfully by integrating and applying both professional and occupational competencies and their related knowledge, skills and personal qualities to a satisfactory standard. Miller's (1990) influential work on assessment of competency in medicine identified a 4 level pyramidal framework for clinical assesssment:
1. Knowledge;
2. Knowing theoretically how to use this knowledge to solve problems;
3. Demonstrating how they can do this; and
4. Demonstrating this ability in authentic performance situations i.e. the workplace.
Universities academics no longer assume that acquisition of sufficient knowledge will enable competent performance in the workplace. Universities strongly rely on assessment at levels 2 and 3 as these assessment activities can be carried out in the university environment, and can in fact be important steps along the continuum of students' developing ability to acquire, integrate and apply knowledge, skills and personal qualities as the progress through their educational program.

The inference that satisfactory performance on these levels of assessment will translate into successful complex professional performance in the workplace can be strengthened if students are able to successfully address complex problems requiring an integration of both types of competencies. However, it is easier to design assessments for performances that have easily specified components and are therefore necessarily simpler and lack the complexity and 'messiness' of judging real professional performances. This trend to simplification is further driven by a psychometric approach to educational assessments that results in strongly held beliefs that fair assessments must be objective (leading to assessing performances that can be concretely specified) and reliable within each assessment rather than across a program of assessment (Schuwirth & Van der Vleuten, 2011).

High quality Level 4 workplace based assessments are considered the 'gold standard' of competency based assessment (Wass, van der Vleuten, Shatzer, & Jones, 2001) but concerns are consistently expressed from a psychometric perspective regarding their fairness i.e. objectivity and reliability. However, the COMPASS® work in Speech Pathology and subsequently in physiotherapy (Dalton, Keating, & Davidson, 2009) has demonstrated that allied health professionals who take students on placement are able to make valid judgements of students' competency based on observations of their performance over time in Level 4 workplace based assessment. However, even level 4 assessments assume that a satisfactory performance in one workplace will transfer to other workplaces. This issue is one of many challenges facing educators in management of their role in preparing graduates who are accredited by their professions for practice.

Competency based assessment and accreditation

We have outlined how the accreditation process in Speech Pathology privileges assessment of workplace performance or, where that cannot be achieved, evidence derived from authentic clinically based assessments.. Ensuring assessments provide evidence that Speech Pathology graduates are prepared for the complex nature of professional practice is challenging. Speech pathologists address the communication and swallowing needs of community members across the lifespan and consequently Speech Pathologists are involved in practice across a diverse range of contexts in a diverse range of teams working in childcare, education, disability, welfare, rehabilitation and acute health care. University programs are unable to provide experience and assessment evidence for graduate competence across all areas of practice, so decisions must be made about what to assess and issues such as transfer of competence to new contexts on graduation considered (Brebner, 2014). The development of COMPASS® identified that the discipline community expects to be central to the process of determining students' competency through providing pass/fail judgements of their performances in the workplace. While the COMPASS® research demonstrated that clinical educators can do this validly, supporting quality assessment judgements by clinical educators requires ongoing training and support from the university and students continue to be concerned regarding the fairness of the process (Attrill, Lincoln and McAllister, in press).

In Pharmacy, educators face different challenges in managing the interaction of accreditation requirements and assessment and preparation of graduates for complex work environments. In particular, Pharmacy graduates are not expected to be work ready or competent on graduation but on their completion of an internship year. Competency performance standards expected from Pharmacy graduates entering the internship year are low. This is apparent in the descriptions of performance criteria and exemplar outcomes specified in the "*Customised Tool of entry-level competencies incorporating guidance on Pharmacy School and Intern Training Provider contributions*" (Customised Tool, Advanced Pharmacy Practice Framework Steering Committee). This tool was developed by a professional steering committee representing professional organisations and adopted by the Pharmacy Board of Australia to articulate the competencies and standards that must be achieved by Pharmacy graduates at the point of entry into the internship year and references the Australian Competency Standards framework for Pharmacy. Examples of the standards (performance criteria and exemplars) expected are included in Table 1 below, and it can be seen that these map onto low level expectations of performance such as 'understand', or 'describes'. In contrast the standards in PhLOS, developed with reference to university graduate standards, are higher and require informed action rather than passive understanding for example, . 'demonstrate', 'recognise …and seek support', 'behave'. The frameworks illustrate a

disconnect between the university and profession's expectations of graduates' level of performance on graduates as they outline very different levels with regard to breadth, depth and application to practice

Table 1 Extract of both the Learning Outcomes and Standards (Stupans et al., 2014) and the Customised Tool (Advanced Pharmacy Practice Framework Steering Committee, 2011).

Pharmacy Learning Outcomes and Exemplar Standards (Extract, one of eight learning outcomes are shown) **Upon completion of their program of study, Pharmacy graduates (at end of degree prior to internship) will be able to:**	**Customised Tool (Extract, Pharmacy school obligations)** **Domain, standard, element, performance criteria and exemplar outcomes are shown**
Demonstrate professional behaviour and accountability in the commitment to care for and about people Exemplar Standards *Comply with relevant codes of conduct and legal requirements in professional practice and the provision of patient care* *Behave professionally and ethically* *Recognise own professional limitations and seek support if necessary*	*Domain 1*-Professional and ethical practice *Standard 1.1*-Practise legally *Element* – Comply with statute law, guidelines, codes and standards *Performance criteria* - **Understands** the obligations created by codes of conduct/ethics for professional practice adopted by the registering authority. *Exemplar outcome* - **Describes**, **explains** and **interprets** the obligations created by codes of conduct/ethics. *Domain 1*-Professional and ethical practice *Standard 1.2* -Practise to accepted standards *Element* – Demonstrate personal and professional integrity *Performance criteria* - **Understands** the position of trust in which the profession is held. *Exemplar outcome* - **Describes** the fundamental obligations of pharmacists to behave and practise in a manner that upholds the reputation and standing of the profession.

Furthermore, the Customised Tool provides very detailed descriptions of professional competency, and although broad domains are listed, the list of elements is extensive and does not recognise the essential integration required to enable competent professional performance. As a result, academics face challenges in preparing students for professional practice. There is extensive engagement by the professional Pharmacy community in student placement activities, however practice is highly variable and consequently so is the exposure that students may gain to workplace complexity This is further reinforced by assessments of placements during the degree where assessment of clinical placement performance takes the form of workbooks graded on the basis of written task completion (Stupans & Owen, 2009) rather than observed workplace competency.

Thus Pharmacy graduates bring to the profession the knowledge, skills and attributes of a primarily university based education which references practice but does not align with professional requirements. Speech Pathology graduates enter the profession with an education that prepares them with knowledge, skills and attributes that are clearly aligned with professional requirements.

Irrespective of whether there is a disconnect or alternatively an alignment between university expectations and professional competency standards as we have described in Pharmacy and

Speech Pathology respectively the competency frameworks for both professions focus primarily on occupational competencies. The standards pay less regard to those competencies that are considered important for successful professional practice (e.g. communication and professional behaviour) and development of expertise (e.g. lifelong learning and clinical reasoning). Therefore, educators in both disciplines are facing challenges in preparing graduates for practice in the complex, challenging and continually evolving world of professional practice.

Preparation for ongoing competence

Both professions, to some degree, have identified in their competency statements that 'lifelong learning' is a key competency to support ongoing high quality professional practice but define it in limited terms as ongoing engagement in professional development activities. The higher education literature has long identified that ongoing development of professional expertise, requires more than this and is mediated by many influences. For example, Candy and Crebert (1991) proposed that the transition for graduates into the world of work is difficult due to the change in learning environments and the impossibility of university programs preparing graduates for practice in very diverse types of work environments. They identify that graduates need skills such as problem solving, decision-making and managing relationships to be able to practice and the ability to "*adapt their learning strategies to meet unpredictable demands.*" Candy and Greiber (1991. pp 572). Similar issues have been noted by LeMaistre and Pare (2004) in their longitudinal studies of students transitioning into professional work, in particular the need to be prepared for learning in the workplace to support ongoing development of professional competency.

Universities are expected to prepare students for ongoing development of their expertise in the workplace over their professional lives. This is apparent in frameworks such as AQF and statements of university graduate attributes that highlight development of graduates' ability to learn and use new knowledge in an integrated and holistic way within the workplace (Barrie, 2006). Thus educators must facilitate students' acquisition of professional competencies to support ongoing development of expertise and practice in complex and changing workplaces. However, prioritising learning and assessment activities within the curriculum to support the development of competencies such as lifelong learning is difficult.

However, even should accreditation processes be aligned to this expectation, preparing graduates for future practice is problematic as it is by its very essence unknown. Facilitating students' development of professional competencies and assessing this development is problematic. Professional competencies are more difficult than occupational competencies to operationalise into observable behaviours that allow for quality assessment judgements – although work in both Pharmacy (the PhLOS) and Speech Pathology (COMPASS®) suggests it can be done. Programmatic approaches to assessment where multiple types of evidence are collected over time to build an integrated picture of competency, including the students' ability to learn and change may assist (Schuwirth & Ash, 2013). However, movement to programmatic assessment requires transformational changes in the way in which professional education pedagogy is conceptualised and implemented. Challenges that can be anticipated are many and include issues such as: how to change teaching practices to create an integrated approach to learning and assessment across 4 years of education; managing already crowded curricula; addressing academic and student concerns regarding fairness and objectivity of assessment decisions; and linking university and workplace curriculum to facilitate smooth transitions between the two learning environments – to name a few.

Conclusion

The accreditation and registration requirements, whether formal or informal, ensure that at the point of graduation, or completion of internship, recent graduates are able to deliver entry-level, safe, quality health services. Health professional educators face unique challenges because of their focus on preparation of health professionals for whom there are specific requirements within a detailed accreditation framework. Some of the challenges that Speech Pathology and Pharmacy educators face are being attended to through the development of COMPASS® and the PhLOS respectively. The landscape of future practice settings is by its very nature uncertain and will, in all probability, become more complex. Educators will continue to require extensive support for development and implementation of high quality pedagogy such that graduates continue to be "fit for practice".

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