10

TRAINING MENTOR TEACHERS ACROSS THE CAREER-SPAN

Fiona C. Chambers, Frank A. Herold, Paul McFlynn, Deirdre A. Brennan and Kathleen Armour

Overview

Sir Ken Robinson (2010) describes the change in culture needed radically to shift the current teacher education system, using the words of Abraham Lincoln (1862):

> The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion. As our case is new, so we must think anew, and act anew. We must disenthrall ourselves, and then we shall save our country.

Teacher Education in the twenty-first century must therefore be 'capable, agile and sustainable' (Department of Education and Training Queensland 2011), which will itself shape an agile teaching workforce.

Agility is defined as the quality of being agile; readiness for motion; nimbleness, activity, dexterity in motion (Oxford English Dictionary, 2013). *Workforce agility* is often defined as the ability of employees to respond strategically to uncertainty (Glinska *et al.* 2012, p. 2):

> Agility is a capability; it is an organization's capacity to respond rapidly and effectively to unanticipated opportunities and to proactively develop solutions for potential needs. It is the result of an organization and the people in it, working together in ways that benefit the individual, the organization, and their customers.
>
> *Nelson and Harvey 1995*

Arguably, this capability is central to creating an agile organization (Prahalad and Hamel 1990). There is a need to 'mobilize employees to meet the demands of the unpredictable education landscape with speed, flexibility and nimbleness' (p. 2).

Educating the teacher workforce to be agile is achieved through carefully designed professional development and training opportunities across the three-phase continuum of teacher education (Teaching Council of Ireland 2011). This is essentially about teachers learning, learning how to learn, and transforming knowledge into practice for the benefit of their professional and pedagogical growth (Darling-Hammond 2006b; Darling-Hammond 2006a; Darling-Hammond and Rothman 2011).

According to the Queensland Department of Education and Training (2011, p. 6), mentoring plays a pivotal role in the professional development of an agile workforce:

> Mentoring is a relationship designed to build confidence, encourage participants to take responsibility for their own learning, help them apply greater initiative to their own development, and assist less experienced staff to 'navigate' the organization.

Mentor training

Currently, mentor selection can be a haphazard process as mentors are chosen on the basis of (a) being excellent classroom teachers, even though some do not have the potential to be effective mentors (Fletcher 1998; Tannehill and Goc-Karp 1992) or (b) being available rather than suitable (Fletcher 1998). Riggs (2000) concurs, saying most mentor teachers generally are selected on the basis of their expertise as a teacher and position in the Career Cycle (Hennissen *et al.* 2011). Because expertise is domain-specific (Berliner 2001), good teachers are not automatically good mentors (Zanting 2001). Coupled with this, formal mentor training programmes may not exist even though studies identify a need for serious on-going mentor training (Rikard and Veale 1996; Hardy 1999). It is argued that such training programmes should contain the following approaches: role-modeling, observation, data collection and feedback-focused analysis (Randall 1992; Metzler 1990) underpinned by a strong reflective purpose (Korthagen 2001). In this way, the mentor will be equipped to address issues of power and the effect of phases of personal and professional life in the mentor-mentee relationship. Hennissen *et al.* (2011) state that 'apart from expertise as a teacher, it is important that mentor teachers develop attitudes, knowledge and skills in the specific domain of mentoring' (p. 207). It may be helpful at this point to tease out how mentor suitability can be gauged using the concepts of mentor capacity and capability.

Mentor capacity and capability

In dictionary definitions, *capacity* is defined as the power to hold, accommodate, or receive something. The word is also used to describe the abilities or powers of human beings to do or understand something; the power to learn or retain knowledge; mental ability; innate potential for growth, development or accomplishment; faculty. *Capability* is a feature, an ability, or competence that can be developed in a person or a potential aptitude. It could refer to an ability that exists in an individual

but can be improved upon – e.g. a novice mentor may support the mentee in a very directive style but the mentor trainer might feel that with training he or she could move to a more collaborative style (Glickman *et al.* 2001). According to the dictionary, capability, therefore, is the sum of existing *ability* or capacity plus the potential for development of that ability (*potentiality*).

Capacity building

> For all practical purposes, building teacher capacity is, ultimately, engendering development, growth and excellence within an education system.
>
> *Egbo 2011, p. 2*

The contention here is that this will also apply to mentor teacher capacity – i.e. the investment in building mentor teacher capacity will have a direct impact on the quality of the overall education system. There is a range of approaches to mentor training in the three jurisdictions in the vignette reported in this chapter. In Ireland and Northern Ireland, there is no formal training, compared to England where mentors are selected, trained and paid for their mentoring work. Clearly, inconsistent or non-existent mentor training is inimical or hostile to pre-service teacher learning.

Egbo's (2011) model of capacity building in teachers is useful in this context. She states (p. 13) that:

> [i]n building teacher capacity, the focus should be several but, in particular, the following broad areas: policy, training, and pedagogy, infrastructure development and, teacher welfare and empowerment.

Perhaps, the same facets apply to building mentor capacity (see Figure 10.1).

According to Egbo (2011), the end result of successful capacity building initiatives should be effective and transformative teaching and learning. Through the mentor-capacity building process, a curiosity is awakened within the learner, allowing them to engage critically with the commonplace and the familiar and to grow more mature pedagogies (Freire 1970). Mentor capacity building encourages the learner to understand the teaching self and, indeed, the mentor-self. Egbo (2011, p. 12) argues that:

> [c]rucially, for capacity building to be effective, it must respond to the growth and development needs of the individual as well as those of the relevant institutions.

Capacity and capability are symbiotic terms and can be best understood within the notion of a Capability Maturity Model.

Capability Maturity Model

To begin, a definition of the core elements of a Capability Maturity Model will be helpful. Clarke *et al.* (2013) defines capability in relation to processes, as follows:

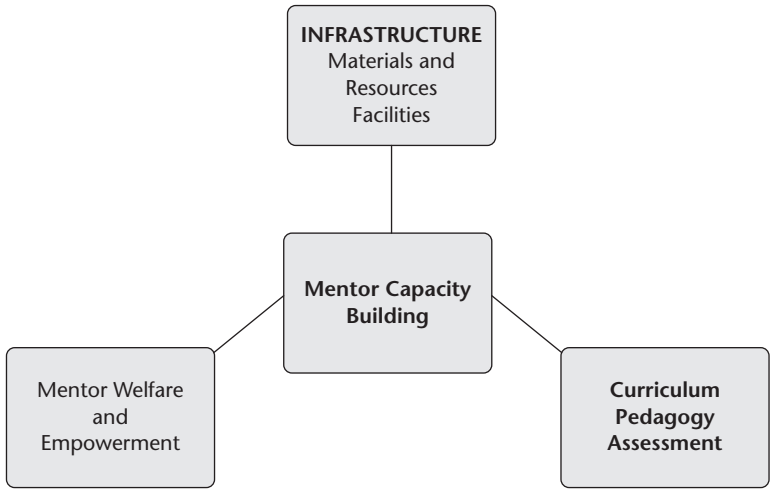

FIGURE 10.1 Adapted from 'A Contextualised Model of Teacher Capacity Building' Egbo 2011, p. 8, in Chambers *et al.* 2013, p. 37

the capability of a process used by an organization (e.g. the Teacher Education System) is an indication of how well it does what it is designed to do. Rosemann and De Bruin (2005) describe how the combined influence of the capabilities on a given aspect of the organization, in this case mentor teacher education, is a sign of maturity. Iversen, Nielsen and Nørbjerg (1999) speak of aspects, which can have levels of maturity, i.e. be more or less mature. The maturity rating of these aspects can impact on the process of mentor teacher training within the education system. Mentor-teacher education capability improves based on the increased maturity of these aspects. A model is defined as:

> [a] theoretical representation that simulates the behaviour or activity of systems, processes or phenomena and by ordering all of the theoretically possible incremental improvements into a continuum, it is possible to generate a model that summarises the maturity of the capabilities for that organization.
>
> *Clarke et al. 2013, p. 2*

The integration of these three ideas produces the capability maturity model[1], which:

> [r]epresents a continuum of incremental improvements, evolving from a less to a more mature or effective level . . . clustered into a series of stages or levels where process capability – how capable a process is of achieving what it is designed to do – can be described within each level in terms of key processes and between levels as a logical maturational development from one level to the next. The dominant level provides the global indicator of maturity.
>
> *Ibid., p. 4*

The Capability Maturity Model (CMM) has its genesis in the information technology (IT) industry – e.g. the CMM (Paulk 1999) is a classic example of such a model which was level-oriented. Marshall and Mitchell (2002) evolved a model that replaced levels with a more holistic, dimension-driven structure. Marshall (2010) is careful to point out that the CMM is not a linear and hierarchical tool. Instead, it is the synergistic and holistic nature of the dimensions concept where maturity is interpreted as a complex, interactive product of all of the dimensions. Marshall and Mitchell (2006, p. 1) explain:

> The key idea underlying the dimension concept in contrast, is holistic capability. Rather than the model measuring progressive levels, it describes the capability of a process from synergistic perspectives. An organisation that has developed capability on all dimensions for all processes will be more capable than one that has not. Strong capability at particular dimensions that is not supported by capability at the other dimensions will not deliver the desired outcomes.

Even more complexity is inherent in development of capabilities, as not all mentors learn in the same way.

Vignette

Background

This study (Chambers *et al.* 2013) builds on the previous Standing Conference on the Teacher Education North and South (SCoTENS) funded study (reported in Chapter 3), which interrogated current mentoring practice in three Physical Education Teacher Education (PETE) programmes (Ireland, Northern Ireland and England). Using the same three research sites, this study aimed to prepare a detailed Charter of Mentor Competencies in PETE.

Methods

Research participants comprised six university tutors (UTs) and ten PE mentor teachers across the three research sites. This study employed a mixed method approach to data collection (focus groups and a survey). Data were analysed thematically either using a constructivist version of grounded theory as a framework for data analysis (Strauss and Corbin 1998, p. 141; Charmaz 2000) or using Descriptive Statistics.

Findings

This study moved beyond the initial aim to produce a Charter of Mentor Competencies in PETE and formulated a Capability Maturity Model for Mentor Teachers (CM^3T) across a new Mentor Career Cycle framework.

The CM³T can be used as both (a) a diagnostic tool to ascertain mentor training needs within the Mentor Career Cycle and (b) a planning tool for designing bespoke training programmes for mentors at each phase of the Mentor Career Cycle. The mentor competencies are assigned to Bloom *et al.*'s (1956) (i) cognitive domain, (ii) affective domain or (iii) hybrid cognitive/affective domains. The CM³T also shows the level within each domain taxonomy using a colour-coding system. A Mentor Career Cycle was also generated based on Huberman's Career Cycle (1989). Mentor teachers in the study expressed dissatisfaction with the titles for some of the phases in Huberman's Career Cycle (1989) and changed these as follows: *Career entry* to *Novice*, *serenity/relational distance* to *consolidation/maturity* and *moving toward disengagement* to *Expert*.

How to use the CM³T

From this study, data have shown that *all capabilities* in the CM³T Chart have to be developed by the mentor across each phase of the Mentor Career Cycle. In each phase of the Mentor Career Cycle, the domain level of each mentor capability is clearly outlined in the CM³T Chart. The definitions of the levels of each capability (cognitive and affective [hybrid]) are outlined in Table 10.3. The CM³T Chart helps the mentor trainer to diagnose the positioning of the mentor in the Mentor Career Cycle and the capability level the mentor must attain within this phase. This may serve as a useful diagnostic and training tool for mentor teachers. Two worked examples using the complete CM³T Chart are now presented in relation to development of a particular mentor capability.

Example 1

Capability: Planning
Domain: Cognitive
Mentor: Conor, Republic of Ireland
Mentor Career Cycle phase: Novice
CM³T Novice phase level required: Level 5: *Synthesis* – involves the putting together of elements and parts so as to form a whole.
Therefore, mentor training required: How to develop long-term and short-term Mentee Development Plan comprising the following:

Aims/goals, learning outcomes, assessment tools, tasks, outputs and impact. This involves identifying challenges and barriers as well as new goals, strategising resolution, revising timelines, prioritizing and developing an action plan. Regular timetabled meetings, Mentee teaching workload, etc. (Department of Education and Early Childhood Development 2010).

Example 2

Capability: Empathy
Domain: Affective
Mentor: Andrew, England

TABLE 10.1 Capability Maturity Model for Mentor Teachers (CM^3T)

Competency	*Domain*	*Novice*	*Stabilisation*	*Experimentation*	*Consolidation/Maturation*	*Expert*
Empathy	Affective	3	4	5	5	5
Trust	Affective	3	4	5	5	5
Fostering positivity	Affective	3	4	4	5	5
Defining mentee expectations	Affective	3	4	5	5	5
Protective	Affective	2.5	3	4	5	5
Support	Affective	3	3.5	4	5	5
Flexibility	Cognitive	4	5	5.5	6	6
Leadership	Cognitive	4	4.5	5	6	6
Planning	Cognitive	5	5	6	6	6
Organisation	Cognitive	4	5	5	6	6
Subject knowledge	Cognitive	4	5	6	6	6
Observation	Cognitive	4	5	6	6	6
Cross-fertilisation of mentoring skills from one subject to another	Cognitive	3.5	4.5	5	6	6
Role model	Cognitive	5	5	6	6	6
Recognising excellent performance	Cognitive	5	5	6	6	6
Advisor	Cognitive	4	5	6	6	6
Facilitator	Cognitive	4	5	6	6	6
Multi-task	Cognitive	4	5	6	6	6
Empowering the mentee	Cognitive	3	4	5	6	6
Context knowledge	Cognitive	4	5	5	6	6
Facilitating appropriate progression	Cognitive	4	5	5	6	6
Resourceful	Cognitive	4	5	5	6	6

Fostering teamwork	Cognitive	4	5	6	6	6
Discerning	Cognitive	4	4	5	6	6
Delegate	Cognitive	4	5	6	6	6
Collaborative	Cognitive	4	5	5	6	6
Guided discovery	Cognitive	3	4	5	6	6
Advisor	Cognitive	4	5	6	6	6
Team teaching	Cognitive	3	5	6	6	6
Decision making	Cognitive	4	5	6	6	6
Issuing feedback and corrective action	Hybrid	App,Resp	S,V	E,O	E,I	E,I
Building rapport	Hybrid	Ana,V	S,O	E,I	E,I	E,I
Non-directive	Hybrid	Ana,V	Ana/S,O	S,O	E,I	E,I
Self-confidence	Hybrid	Ana,V	S,O	S/E,O	E,I	E,I
Objective	Hybrid	App,V	Ana,V	S,O	E,I	E,I
Developing the mentee	Hybrid	Ana,V	Ana,V	S,O	E,I	E,I
Interacting with triad partners	Hybrid	S/Ana, V/O	S,O	S/E,I	E,I	E,I
Mentee focused	Hybrid	App,V	Ana,V	S,O	E,I	E,I
Unthreatened	Hybrid	Ana,V	S,O	E,I	E,I	E,I
Negotiation	Hybrid	Ana,V	S,O	S,I	E,I	E,I
Recognising success	Hybrid	Ana,V	S,O	S,O/I	E,I	E,I
Delivering criticism	Hybrid	App,V	Ana,O	S,O	E,I	E,I
Approachable	Hybrid	S,V	S,O	E,I	E,I	E,I
Interactive	Hybrid	S,V	S,V/O	E,I/O	E,I	E,I
Application of mentoring styles	Hybrid	Ana,V	S,V/O	S/E,I/O	E,I/O	E,I
Coexistence of professional and personal relationships	Hybrid	Ana,V	S,O	E,I	E,I	E,I
Conflict management	Hybrid	Ana.V	Ana/S,O	S,O	E,I	E,I

Chambers *et al.* 2013, p. 84

TABLE 10.2 Key for CM³T

Level	*Level Description*
Cognitive Domain	
6	Evaluation (E)
5	Synthesis (S)
4	Analysis (Ana)
3	Application (App)
2	Comprehension (C)
1	Knowledge (K)
Affective Domain	
5	Internalizing (I)
4	Organisation (O)
3	Valuing (V)
2	Responding (Resp)
1	Receiving (Rec)

Chambers *et al.* 2013, p. 84

TABLE 10.3 Level descriptors of cognitive and affective domain [hybrid]

	Cognitive and Affective (Hybrid) Capabilities	
	Cognitive	*Affective*
1	***Knowledge*** *involves the recall of specifics and universals, the recall of methods and processes, or the recall of a pattern, structure, or setting.*	***Receiving*** *involves awareness, willingness to hear and selected attention.*
2	***Comprehension*** *refers to a type of understanding or apprehension such that the individual knows what is being communicated and can make use of the material or idea being communicated without necessarily relating it to other material or seeing its fullest implications.*	***Responding*** *refers to active participation on the part of the learners. The individual attends and reacts to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).*
3	***Application*** *refers to the use of abstractions in particular and concrete situations.*	***Valuing*** *refers to the worth or value a person attaches to a particular object, phenomenon, or behavior. This ranges from simple acceptance to the more complex state of commitment.*
4	***Analysis*** *represents the breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas is made clear and/or the relations between ideas expressed are made explicit.*	***Organisation*** *involves organizing values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system. The emphasis is on comparing, relating, and synthesizing values.*
5	***Synthesis*** *involves the 'putting together of elements and parts so as to form a whole.'*	***Internalising*** *involves having a value system that controls one's behavior. The behavior is pervasive, consistent, predictable, and most importantly, characteristic of the learner.*
6	***Evaluation*** *engenders judgments about the value of material and methods for given purposes.*	
	(Bloom et al. 1956, pp. 201–207)	*(Krathwohl et al. 1973)*

Cited in Chambers *et al.* 2013, pp. 93–94

Mentor Career Cycle phase: Expert
CM^{3}T Expert phase level required: Level 5: *Internalising* – Has a value system that controls their behavior. The behavior is pervasive, consistent, predictable, and most importantly, characteristic of the learner.
Therefore, mentor training required: How to be consistently empathic with mentee while maintaining professionalism.

In sum, the findings in this study have allowed interrogation of the CM^{3}T from a number of standpoints: (a) duality/hybridity of domains, (b) moving from competency to expertise and (c) phases of the Mentor Career Cycle.

Analysis

Duality/hybridity of domains

It is interesting to note that there were a number of competencies in this study which mentors lay in *both* the cognitive and affective domain. Empathy is one such capability. This aligns with the work of Birbeck and Andre (2009) who assert that 'the affective and cognitive domain teaching should not be seen as a dualism' (p. 3). Rather, many competences have a cognitive-affective aspect (e.g. empathy, although, in this study mentors allocated empathy as an affective competence). Krathwohl *et al*. (1964) describe the affective domain in relation to the cognitive domain as follows: 'in the cognitive domain we are concerned that the student shall be able to do the task when requested. In the affective domain we are more concerned that he does do it when it is appropriate after he has learned he can do it' (p. 60).

From competencies through capabilities to expertise

The terms capability, capacity and competency are use interchangeably in the literature. There are overlaps in these terms but it is clear that *competency* is a much narrower concept than the idea of *capability*. Parry (1996, p. 48) described a competency as:

> [a] cluster of related knowledge, skills and attitudes that affect a major part of one's job (role or responsibilities), that can be measured against some sort of occupational standards and can be improved by training and development. In other words, it is a measure of the current knowledge, skill or attitude of an individual.

Capability is a more holistic idea, which not only delineates the person's current knowledge, skill and attitudinal status but also their potential for improvement in each of these learning domains 'and is to do with future competence' (Chartered Society of Physiotherapists 2005). 'Competencies are a range of applied abilities and skills that relate to capability' (ibid.) or in the case of mentor training, cognitive and affective competencies that lead to mentor capability. According to Konkel (2008), the route to expertise begins by grounding key

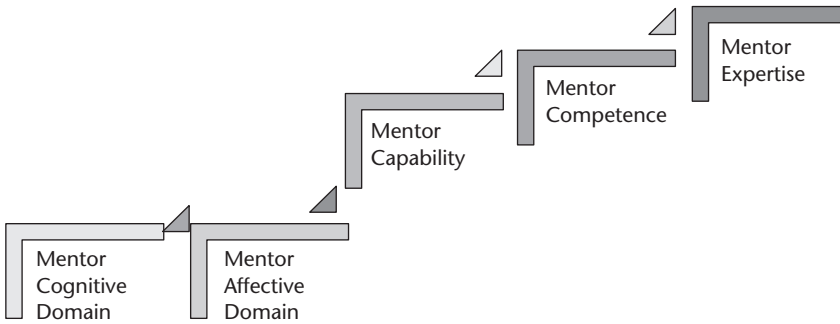

FIGURE 10.2 A stairway to expertise

Chambers *et al.* 2013, p. 99 (adapted from Konkel *et al.* 2008)

competencies. In this study, mentors identified cognitive and affective competencies as being core to their work. The step change from attaining these competencies to achieving the status of capability is achieved through training. Thereafter, the shift from capability to overall competence is acquired by experience, peer review and reflective practice (ibid.). The diagram in Figure 10.2 depicts this relationship and is adapted from Konkel (2008). The CM^{3}T represents the pathway to realizing the mentor's potential to develop in each of the capabilities and leads to future overall competence and ultimately mentor expertise.

Lessons learned . . . What could we add to the Mentor Pedagogy Toolbox?

- The CM^{3}T can be used as both (a) a diagnostic tool to ascertain mentor training needs within the Mentor Career Cycle and (b) a planning tool for designing bespoke training programmes for mentors at each phase of the Mentor Career Cycle.
- According to Konkel (2008), the route to expertise begins by grounding key competencies. In this study, mentors identified cognitive and affective competencies as being core to their work. The step change from attaining these competencies to achieving the status of capability is achieved through training. Thereafter, the shift from capability to overall competence is acquired by experience, peer review and reflective practice (ibid.).

Key terms: capacity, capability, agile workforce, Capability Maturity Model for mentor training.

Note

1 Both Capability Maturity Model and Maturity Model are used in the literature.

References

Berliner, D. C. 2001. Learning about learning from expert teachers. *International Journal of Educational Research,* 35, 463–482.

Birbeck, D. and Andre, K. 2009. The affective domain: beyond simply knowing. *ATN Conference*. RMIT University.

Charmaz, K. 2000. Grounded theory: objectivist and constructivist methods. In N. K. Denzin and Y. S. Lincoln (Eds.) *Handbook of Qualitative Research*. London: Sage Publications.

Chambers, F. C., Herold, F. A, McFlynn, P., Brennan, D. A. and Armour, K. 2013. Developing effective mentor pedagogies to support pre-service teacher learning on Teaching Practice (Mentor-Ped): A Capability Maturity Model for Mentor Teachers [CM^{3}T]. Standing Conference on Teacher Education North and South. Armagh, Co. Antrim.

Chartered Society of Physiotherapy. 2005. *Core Standards of Physiotherapy Practice*. London: The Chartered Society of Physiotherapy, 2005.

Clarke, J. A., Nelson, K. J. and Stoodley, I. D. 2013. The place of higher education institutions in assessing student engagement, success and retention: a maturity model to guide practice. In *Higher Education Research and Development Society of Australasia*. University of Auckland.

Darling-Hammond, L. 2006a. Constructing 21st century teacher education. *Journal of Teacher Education,* 57, 300–314.

Darling-Hammond, L. 2006b. *Powerful Teacher Education: Lessons from Exemplary Programs*. San Francisco: Jossey-Bass.

Darling-Hammond, L. and Rothman, R. 2011. *Teacher and Leader Effectiveness in High Performing Education Systems*. Washington, DC: Alliance for Excellent Education, and Stanford, CA: Center for Opportunity Policy in Education.

Department of Education and Early Childhood Development 2010. *A Learning Guide for Teacher Mentors.* Department of Education and Early Childhood Development: East Melbourne,Victoria.

Department of Education and Training 2011. *The Department of Education and Training Annual Report 2010–11.* Brisbane: Queensland Government.

Egbo, B. 2011. Teacher capacity building and effective teaching and learning: a seamless connection. *Proceedings of the 2011 International Conference on Teaching, Learning and Change*. Omoku, Rovers State Nigeria: International Association for Teaching and Learning (IATEL).

Fletcher, S. 1998. Attaining self-actualization through mentoring. *European Journal of Teacher Education,* 21, 109–118.

Freire, P. 1970. *Pedagogy of the Oppressed*. New York: Herder and Herder.

Glickman, C. D., Gordon, S. P. and Ross-Gordon, J. M. 2001. *SuperVision and Instructional Leadership: A Developmental Approach*. Needham Heights, MA: Allyn & Bacon.

Glinska, M., Carr, S. D. and Halliday, A. 2012. *Workforce Agility: An Executive Briefing*. Transforming Society Through Entrepreneurship and Innovation. Batten Institute.

Hardy, C. A. 1999. Preservice teachers' perceptions of learning to teach in a predominantly school-based teacher education program. *Journal of Teaching in Physical Education,* 18, 175–198.

Hennissen, P., Crasborn, F., Brouwer, N., Korthagen, F. and Bergen, T. 2011. Clarifying pre-service teacher perceptions of mentor teachers' developing use of mentoring skills. *Teaching and Teacher Education,* 27, 1049–1058.

Huberman, M. 1989. The professional life cycle of teachers. *Teachers College Record,* 91, 31–57.

Iversen, J., Nielsen, P. A. and Nørbjerg, J. 1999. Situated assessment of problems in software development. *The DATABASE for Advances in Information Systems*, 30(2).

Konkel, S. 2008. A Competence-Based Curriculum for Environmental Health. *Environmental Health Planning and Policy.* Environmental Health Sciences Institute at ARROW@DIT: Dublin Insitute of Technology.

Konkel, R. S., Brennan, M. and Lewis, T. 2008. Developing an International Competence-based Curriculum for Environmental Health. *10th World Congress on Environmental*

Health, Brisbane, Australia, January 2008. Accessed on 28th June 2013 from http://works.bepress.com/steve_konkel/7

Korthagen, F. A. J. 2001. *Linking Practice and Theory: The Pedgaogy of Realistic Teacher Education*. Mahwah, NJ: Lawrence Erlbaum Associates.

Krathwohl, D. R., Bloom, B. S. and Masia, B. B. 1964. *Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook II: Affective domain*. New York: David McKay Company.

Marshall, S. 2010. A quality framework for continuous improvement of e-Learning: The e-Learning Maturity Model. *Journal of Distance Education,* 24, 143–166.

Marshall, S. J. and Mitchell, G. 2006. Assessing sector e-learning capability with an e-learning maturity model. In D. Whitelock and S. Wheeler (Eds.) *Proceedings of the 13th International Conference of the Association for Learning Technologies Conference*. Edinburgh, UK, pp. 203–214.

Marshall, S. M. and Mitchell, G. 2002. An E-Learning maturity model? In winds of change in the sea of learning. *ASCILITE*. Auckland.

Metzler, M. W. 1990. *Instructional Supervision for Physical Education*. Champaign, IL: Human Kinetics.

Nelson, A. and Harvey, F. A. 1995. Technologies for training and supporting your agile workforce. In *Creating the Agile Organization: Models, Metrics and Pilots*. Proceedings 4th Agility Forum Annual Conference. Agility Forum, Bethlehem, PA.

Oxford English Dictionary (2013). c.v. *Agility*. http://www.oed.com/view/Entry/3983?redirectedFrom = agility#eid. Accessed on 4th September 2013.

Parry, S. B. 1996. The quest for competencies. *Training,* 33(7), 48–54.

Paulk, M. C. 1999. Using the software CMM with good judgment. *ASQ Software Quality Professional,* 1, 19–29.

Prahalad, C. K. and Hamel, G. 1990. The core competence of the corporation. *Harvard Business Review,* 68, 79–91.

Randall, L. E. 1992. *Systematic Supervision for Physical Education*. Champaign, IL: Human Kinetics.

Riggs, I. M. 2000. The impact of training and induction activities upon mentors as indicated through measurement of mentor self-efficacy. San Bernardino: California State University.

Rikard, G. L. and Veale, M. L. 1996. Cooperating teachers: insight into their preparation, beliefs and practices. *Journal of Teaching in Physical Education,* 15, 279–296.

Robinson, K. 2010. Bring on the education revolution, in *TED,* Ted (ed.). UK: TED.

Rosemann, M. and De Bruin, T. 2005. A model to measure business process management maturity and improve performance. *13th European Conference on Information Systems,* Regensberg.

Strauss, A. and Corbin, J. 1998. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. London, Sage Publications.

Tannehill, D. and Goc-Karp, G. 1992. The student teacher practicum: placement trends and issues. *The Physical Educator,* 49, 39–48.

Teaching Council of Ireland 2011. *Policy on the Continuum of Teacher Education*. Maynooth: Teaching Council of Ireland.

Zanting, A. 2001. *Mining the Mentor's Mind: The Elicitation of Mentor Teachers' Practical Knowledge by Prospective Teachers*. Doctoral thesis, Leiden University.

Resources

Mindrum, C. 2008. Agility training for the learning organization. *Chief Learning Officer,* 7(12), 36–87.

Gladwell, M. 2008. *Outliers: The Story of Success*. New York: Little Brown.