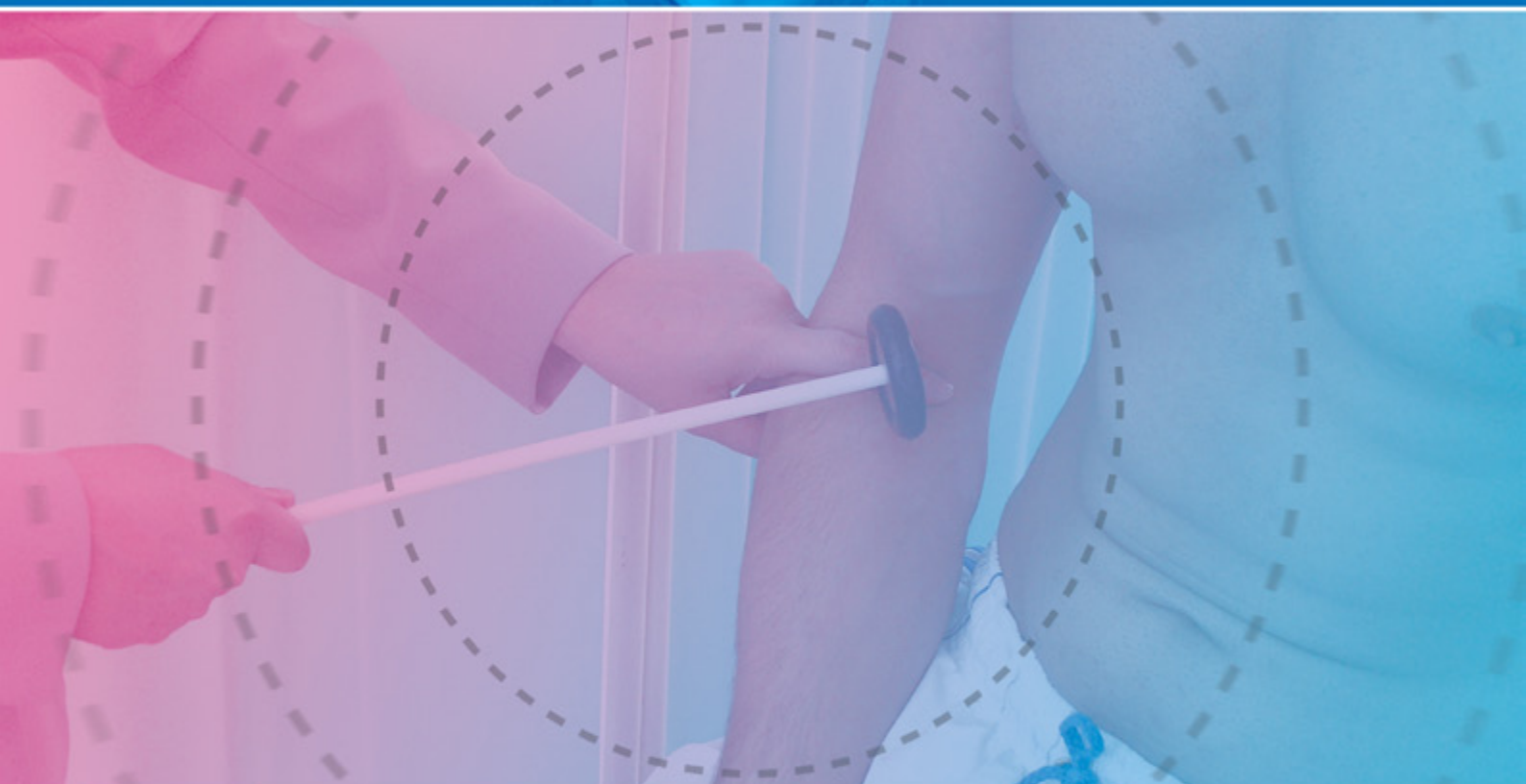




ISSN 1753-044X

Volume 5 Issue 1
April 2011

INTERNATIONAL JOURNAL OF CLINICAL SKILLS



A Peer Reviewed International Journal for the Advancement of Clinical Skills
- *'docendo ac discendo' - 'by teaching and learning'*



In this issue:

With proceedings from
The 8th International ePortfolio Conference



EIFEL
Building a Learning Europe

Clinical Training Associates & Pelvic Examinations
WHO 'Five Moments for Hand Hygiene'
Holistic approach to resuscitation
Cranial nerve examination

Executive Board

Dr Humayun Ayub

Editor-in-Chief
editor@ijocs.org

Dr Alison Anderson

Executive Editor
a.anderson@ijocs.org

Mrs Sally Richardson

Senior Associate Editor
s.richardson@ijocs.org

Mr Keser Ayub

Managing Director
k.ayub@ijocs.org

Dr Waseem Ahmed

Clinical Skills Lab Editor
w.ahmed@ijocs.org

Dr Raina Nazar

Clinical Skills Editor
r.nazar@ijocs.org

Dr Wing Yan Mok

Business Development Manager & Associate Editor
wing.mok@ijocs.org

Dr Hind Al Dhaheri

Associate Editor
h.aldhaheri@ijocs.org



International Journal Of Clinical Skills
P O Box 56395
London
SE1 2UZ
United Kingdom

E-mail: info@ijocs.org
Web: www.ijocs.org
Tel: +44 (0) 845 0920 114
Fax: +44 (0) 845 0920 115

Published by SkillsClinic Ltd.

Acknowledgements

We would like to take this opportunity to show appreciation to all those involved with the production of the International Journal of Clinical Skills (IJOCs). Many thanks to all members of the Editorial and Executive Boards.

Congratulations to Mr Ronak Ved of Cardiff Medical School (UK) on successfully winning The IJOCs Award 2010 - presented for creativity and excellence in the field of Clinical Skills.

The International Journal of Clinical Skills looks forward to contributing positively towards the training of all members of the healthcare profession.

Contents

The Executive Board Members	1
Acknowledgements	1
The Editorial Board	2
Foreword	
- Professor Harry Owen, Mr Serge Ravet	3

8th International ePortfolio Conference

ePortfolio Conference Abstracts	4
'Physician, know thyself': a role for self-assessment in ePortfolios?	
- Alex Haig	8
ePortfolios in general dental practice: validating CPD activity for improved performance	
- Julia O'Sullivan	14
Effective embedding and integration of ePortfolios in medical and dental curricula	
- Simon Cotterill	18
'Knowing me, knowing you': tutor practices of encouraging student learning through ePortfolio	
- Christopher Murray	24
Do I dare disturb the universe? An ePortfolio vision fostering independent mindedness in healthcare	
- Anne-Marie Howes	29

Original Research

Evaluating the WHO 'Five Moments for Hand Hygiene' as a new way of teaching hand hygiene to junior medical students	
- George Hogg	32
Factors motivating 'Clinical Training Associates' (CTAs) to work with medical students to teach pelvic examinations	
- Annette Burgess	39
'There isn't a right or a wrong way to do it': supporting student reflection in professional practice, a qualitative action research study	
- Kate Rowe-Jones	42
What factors influence decision making by graduate nurses initiating medication?	
- Loretta Garvey	50

Reviews

Cranial nerve examination	
- Rachel Asghar	56
Holistic approach to resuscitation: required skills beyond advanced life support	
- Noraliza Ariffin	64
Teaching to suture: an innovative training tool	
- David Walker	68

Correspondence	70
----------------	----

Clinical Skills Notice Board	71
------------------------------	----

Editorial Board for the International Journal of Clinical Skills

Dr Ali H M Abdallah MB BS

Family Medicine
Dubai Health Authority (DHA)
United Arab Emirates (UAE)

**Mr Henry O Andrews FRCS(Eng) FRCS(Ire)
FRCS(Urol) FEBU MBA**

Consultant Urological & Laparoscopic Surgeon
Department of Urology
Milton Keynes General Hospital, UK

**Dr Peter J M Barton MBChB FRCGP MBA
DCH FHEA**

Director of Clinical and Communication Skills
Chair of Assessment Working Group
Medical School
University of Glasgow, UK

Dr Jonathan Bath MB BS BSc (Hons)

Department of Surgery
Ronald Reagan UCLA Medical Center
Los Angeles
United States of America (USA)

Dr Khaled Al Beraiki MB BS

Forensic Medicine
Klinikum Der Universität zu Köln
Institut für Rechtsmedizin
University of Köln
Germany

**Professor Chris Butler BA MBChB DCH
FRCGP MD**

Professor of Primary Care Medicine
Head of Department of Primary Care and Public Health
Cardiff University, UK

**Dr Aidan Byrne MSc MD MRCP FRCA
ILTM FAcadM**

Graduate Entry Medicine Programme Director & Senior Lecturer in Medical Education
School of Medicine
Swansea University, UK

Dr Dason E Evans MBBS MHPE FHEA

Honorary Senior Lecturer in Medical Education
Barts and the London, Queen Mary's School of Medicine and Dentistry
University of London, UK

**Mrs Carol Fordham-Clarke BSc (Hons)
RGN Dip Nurse Ed**

Lecturer and OSCE Co-ordinator
Florence Nightingale School of Nursing & Midwifery
King's College London, UK

**Dr Elaine Gill PhD BA (Hons) RHV RGN
Cert Couns**

Head of Clinical Communication
The Chantler Clinical Skills Centre
Guy's, King's and St Thomas' Medical School
King's College London, UK

**Dr Glenn H Griffin MSc MEd MD FCFPC
FAAFP**

Family Physician Active Staff
Trenton Memorial Hospital
Trenton, Ontario
Canada

**Dr Adrian M Hastings MBChB MRCGP
FHEA**

Senior Clinical Educator
Department of Medical Education
Leicester Medical School
University of Leicester, UK

Dr Faith Hill BA PGCE MA(Ed) PhD

Director of Medical Education Division
School of Medicine
University of Southampton, UK

**Dr Jean S Ker BSc (Med Sci) MB ChB
DRCOG MRCGP MD Dundee FRCGP
FRCPE (Hon)**

Director of Clinical Skills Centre
University of Dundee Clinical Skills Centre
Ninewells Hospital & Medical School
University of Dundee, UK

**Dr Lisetta Lovett BSc DHMSA MBBS
FRCPsych**

Senior Lecturer and Consultant Psychiatrist
Clinical Education Centre
Keele Undergraduate Medical School
Keele University, UK

Miss Martina Mehrling, Physician

Assistenzärztin Anästhesie
Marienkrankenhaus
Frankfurt
Germany

**Professor Maggie Nicol BSc (Hons) MSc
PGDipEd RGN**

Professor of Clinical Skills & CETL Director
School of Community & Health Sciences
City University London, UK

**Dr Vinod Patel BSc (Hons) MD FRCP
MRCGP DRCOG**

Associate Professor (Reader) in Clinical Skills
Institute of Clinical Education
Warwick Medical School
University of Warwick, UK

Miss Anne Pegram MPhil PGCE(A) BSc RN

Lecturer
Department of Acute Adult Nursing
Florence Nightingale School of Nursing
King's College London, UK

Dr Abdul Rashid Abdul Kader MD (UKM)

Emergency Medicine
Universiti Kebangsaan Malaysia (UKM) Medical Center
Kuala Lumpur
Malaysia

**Professor Trudie E Roberts BSc (Hons) MB
ChB PhD FRCP**

Director – Leeds Institute of Medical Education
University of Leeds, UK

Dr Robyn Saw FRACS MS

Surgeon
Sydney Melanoma Unit
Royal Prince Alfred Hospital
Australia

**Dr Mohamed Omar Sherif MBBS Dip
Derm MD (Derm)**

Specialist in Dermatology
Al Ain Hospital
Health Authority - Abu Dhabi
United Arab Emirates (UAE)

Professor John Spencer MB ChB FRCGP

School of Medical Sciences Education
Development
Newcastle University, UK

**Professor Patsy A Stark PhD BA (Hons) RN
RM FHEA**

Professor of Clinical Medical Education and
Director of Clinical Skills
University of Leeds and Leeds Teaching Hospitals
Trust, UK

**Professor Val Wass BSc MRCP FRCGP
MHPE PhD**

Professor of Community Based Medical Education
The University of Manchester, UK

Disclaimer & Information

Visit the International Journal of Clinical Skills (IJCS) at www.ijcs.org

Whilst every effort has been made to ensure the accuracy of information within the IJCS, no responsibility for damage, loss or injury whatsoever to any person acting or refraining from action as a result of information contained within the IJCS (all formats), or associated publications (including letters, e-mails, supplements), can be accepted by those involved in its publication, including but not limited to contributors, authors, editors, managers, designers, publishers and illustrators.

Always follow the guidelines issued by the appropriate authorities in the country in which you are practicing and the manufacturers of specific products. Medical knowledge is constantly changing and whilst the authors have ensured that all advice, recipes, formulas, instructions, applications, dosages and practices are based on current indications, there may be specific differences between communities. The IJCS advises readers to confirm the information, especially with regard to drug usage, with current standards of practice.

International Journal of Clinical Skills (IJCS) and associated artwork are registered trademarks of the Journal. IJCS is registered with the British Library, print ISSN 1753-0431 & online ISSN 1753-044X. No part of IJCS, or its additional publications, may be reproduced or transmitted, in any form or by any means, without permission. The International Journal of Clinical Skills thanks you for your co-operation.

The International Journal of Clinical Skills (IJCS) is a trading name of SkillsClinic Limited a Company registered in England & Wales. Company Registration No. 6310040. VAT number 912180948. IJCS abides by the Data Protection Act 1998 Registration Number Z1027439. This Journal is printed on paper as defined by ISO 9706 standard, acid free paper.

© International Journal of Clinical Skills

Foreword

We want raw ePortfolio data, and we want the data now

Patients trust that healthcare professionals will possess the clinical skills to provide safe and effective treatment. Serious failures of medical care, through the actions of individuals and the inaction of organisations, have shaken that trust and led to a re-examination of the process of registration. In many countries and disciplines, continued registration now depends on the documentation of continuing professional development. Some jurisdictions, such as the UK, have gone further and are planning more comprehensive evaluation of clinical performance for revalidation. In all cases, assessment is based on some form of ePortfolio.

"An e-portfolio is a purposeful aggregation of digital items – ideas, evidence, reflections, feedback etc, which 'presents' a selected audience with evidence of a person's learning and/or ability."
Sutherland and Powell (2007)

Presenters in the healthcare ePortfolio track at the 8th International ePortfolio Conference, London (July 2010) described a wide range of ePortfolios being used or being developed for allied health, dental surgeons, surgeons, physicians, nurses, medical education, foundation medical graduates. ePortfolios are used by students to evidence acquisition of clinical skills for initial registration, by new graduates to collect evidence of competence for credentialing and by trained staff for evidence of consistent expert performance. As Stuart Cable from the Royal College of Nursing (UK) explained:

"[the ePortfolio] enables nurses to demonstrate their competence in different areas of nursing practice. They are able to capture 'just-in-time' reflections on their practice or a learning experience and then re-present this evidence for different purposes, for example, personal development planning, competence demonstration and educational accreditation of prior learning." (Stuart Cable, Proceedings of the ePortfolio Conference, Maastricht, 2007)

The need for repurposing the same set of collected data across time was confirmed by many of the International ePortfolio Conference presenters: as their careers develop, healthcare professionals will be required to transition across several ePortfolio systems, from those used during initial training, continuing professional development, quality assurance procedures and, at regular intervals, to support reaccreditation processes.

To support evidence of informed and reflective practice, healthcare professionals collect evidence from a variety of sources and data systems, such as patient personal health records, laboratory test analysis, clinical diaries, feedback from peers and patients. Unfortunately, all these different pieces of information are usually stored in independent information silos, making the work of ePortfolio construction and assessment more difficult, notwithstanding that silos make data errors more likely to occur and less likely to be corrected. As most individual ePortfolios also create their own data silos, it reduces the ability to share relevant and critical information across a profession to advance professional practice.

While the initial idea of repurposing ePortfolio data rests on the editing work of an individual compiling a new document, there is an alternative and more radical way of exploiting ePortfolio data: data freedom, i.e. allowing a wide range of online services to exploit raw ePortfolio data.

Imagine a world in which all data created by a healthcare professional when interacting with patients, teachers, colleagues and organisations is securely stored in a Personal Data Store (PDS), creating a 'life log'. Imagine that patients in the healthcare ecosystem have their own personal data stores and can share

the contents, under their control, with the people and services they trust. Imagine a world where everyone would be able to choose any health ePortfolio services while being fully interoperable with those used by various institutions with which healthcare professionals interact.

Imagine a world where the performance of students at several medical schools could be confidentially mined to identify best practice for teaching clinical skills. Imagine a service collecting data from the personal data stores of all the staff of a hospital to conduct audit procedures. Imagine another service identifying the need for training and linking it to workshops on particular topics at a conference or a review in a journal. Imagine a service mining anonymous healthcare data collected in personal data stores by a patient's support group. What Amazon® and Google® can do with their global data stores to identify patterns and trends and target advertising, we can do, with personal data stores for the benefit of healthcare, professional education, patient safety and society in general.

Such a world is possible. It was presented by EIfEL at the launch of the Internet of Subjects (www.iosf.org) during the 8th International ePortfolio Conference. The Internet of Subjects supports the programme that Sir Tim Berners-Lee, the inventor of the Internet, called for: "we want the data raw, and we want the data now!" To achieve that goal, which is to facilitate reuse, repurposing and exchange of data, we need to achieve the separation of data from the applications and services producing and exploiting it; applications and online services must remain the servants, not the masters, of our personal data.

In the near future institutions will not have to select the ePortfolio platform for their students or professionals; it will be an individual choice. On the other hand, educational institutions, professional communities and public healthcare authorities will have the opportunity to develop a number of innovative services, based on the exploitation of the raw data contained in personal data stores. For example, with an Internet of Subjects, data collected by students and trainees for assessment of progress or by trained staff for revalidation could be used, with permission, for other useful purposes such as quality assurance, needs analysis and career planning.

By providing access to raw data in personal data stores (anonymised and under the full control of individuals) to the services of their choice, healthcare professionals and communities would have the foundations to support the development of lively learning communities, for the benefits of their members, patients and society at large. Data collected whilst compiling an ePortfolio is too rich to be limited to a unique usage. We want raw ePortfolio data, we want it now, to contribute amongst other things, to the improvement of the continuing education of healthcare professionals.



Professor Harry Owen
Professor of Simulation
and Anaesthesia
Flinders University
Australia

Harry Owen



Mr Serge Ravet
IoS Innovation Director
Former CEO of EIfEL
France

S Ravet

Do I dare disturb the universe?

An ePortfolio vision fostering independent mindedness in healthcare

Ms Anne-Marie Howes MA PGC RGN HV ONC
 Primary Care Lecturer
 Personal and Professional Development Facilitator
 Leeds Institute of Medical Education

Correspondence:

Ms Anne-Marie Howes
 University of Leeds
 C/O: International Journal of Clinical Skills
 P. O. Box 56395
 London
 SE1 2UZ
 UK

E-mail: a.m.howes@leeds.ac.uk
 Tel: +44 (0) 8450 920114
 Fax: +44 (0) 8450 920115

Keywords:

Independent mindedness
 Autonomy
 Responsibility
 Complexity
 Decision-making
 Self-efficacy
 Medical education
 ePortfolio

Abstract

Assessment and Learning in Placement Settings (ALPS) facilitated a student led ePortfolio project to address the requirements of 16 different healthcare professions, across five universities in West Yorkshire (UK), with the aim of designing an ideal ePortfolio. This highlighted the importance of generic and specific pedagogical issues underpinning facilitation in healthcare settings and in the use of ePortfolios.

Background

The ALPS ePortfolio Team (comprising 16 students from health and social care courses and 4 members of staff) was set up as part of the ALPS Centre for Excellence in Teaching and Learning (CETL) programme, with three aims:

- Developing a better understanding of how students and staff currently use ePortfolios in health and social care across the five-partner Higher Education Institutions (HEIs) (*University of Bradford, University of Huddersfield, University of Leeds (Lead Partner), Leeds Metropolitan University and York St John University*)
- Suggesting approaches for improving this use
- Championing the use of ePortfolios to reluctant users

A review of how ePortfolios are used in health and social care disciplines was completed; this information is being used as a platform from which to develop an ideal ePortfolio. Several themes are emerging and these will guide future development.

One of our aims in redesigning ePortfolios was to ensure that they support the most important areas of current pedagogical thinking; development of independent thought and practice was deemed to be particularly relevant. Although there is a plethora of literature about psychological constructs in relation to cognition, metacognition and metalearning [1 – 6] this paper will concentrate on supporting pedagogy and pragmatics regarding the provision of learning environments and teaching strategies that foster independent mindedness.

Martin Heidegger's philosophy focuses on 'dasein' - literally 'being there', or colloquially 'where you're at' [7]. Dasein dictates whether an individual has an 'authentic' or 'inauthentic' existence; that is, if you live your life one step removed, this has implications for your perspective (vision and creativity) and your interaction with others. It also increases vulnerability. An individual's orientation changes the meaning of their experience – this has repercussions for all aspects of education; for instance, there is a contradiction between the formulaic approach regarding assessment and competencies, and the amorphous complexity of personal development, which underpins professional development. Robotic behaviour and apathy are the outcome of concentration on competencies, because an individual loses – or never develops – the motivation to think and act independently.

Professionalism hinges on a student recognising their position on a continuum from closed systemisation (playing by the rules) to intuition, plus the development of self-awareness regarding their degree of rigidity/flexibility along this continuum, in relation to context. In addition, it is essential that students integrate

professionalism into their personality, rather than masking their identity in order to become, for example, 'a doctor' (especially if they have a flawed, dated model as an ideal). If there is a need to distort or mask the self, communication with others becomes constrained and inauthentic; furthermore, there is a greater risk of burnout and avoidance behaviours e.g. alcoholism.

Michael Polanyi believed that all skills and intuitive insights were underpinned by tacit knowledge [5]; his work has recently been refined by Harry Collins [8]. Educators and clinical tutors play an important part in helping students recognise their individual patterns of thought and behaviour, and also facilitate understanding and making explicit what they already know. Both Polanyi and Collins use riding a bike as an analogy. This is also a useful analogy regarding playing by the rules, in that if you think too hard about riding a bike you are much more likely to fall off, i.e. both trusting intuition and playing by the rules are potentially dangerous. Atul Gawande includes pause points in check lists to counteract mindless following of lists and also to give space for the thought: 'is there anything not on the list...?' [9].

Implications for medical education

There is a quantitative and qualitative shift point when students move from passive observation to active observation and start taking responsibility 'as if' they are the doctor, as an essential part of the process of becoming one. There are several factors that can assist students in building confidence and expertise, thus providing a bridge from apprentice to master, accommodating mistakes (a crucial part of the learning process) [10], yet remaining safe in their practice, avoiding any negative impact on patient care. Awareness of the following by both tutors and students may help to accelerate this process:

Zoom facility: Interpretation of an interaction or event is arrived at through numerous small decisions stemming from knowledge, beliefs, expectations and the complexity of experience. Reflective practice requires a zoom facility, thus enabling an individual to hone what they choose to attend to; in any given situation this involves varying both the object and the degree of attention.

John Launer describes this process: "One important aspect of reflective practice in the health professions is that it involves being in encounters with patients as an active participant, but also simultaneously being an analytical and self-critical observer of one's practice. It means taking part in the consultation as a practitioner, but at the same time 'going up to the ceiling' to look down at the patient, at one's own interaction with the patient, and at the wider contexts that influence that interaction. It is therefore a way of being emotionally and intellectually engaged with the patient, but simultaneously maintaining enough detachment to be a dispassionate internal commentator on what is going on at many different levels" [11].

Zoom facility creates the capacity for seeing the forest and the trees at the same time, thus encompassing the complexity of a situation, maintaining flexibility and facilitating micro-adjustments. Clinical diagnostic thinking requires an ability to work with shifting patterns (like a kaleidoscope), plus a need to constantly re-adjust opinions in the light of new information.

Threshold concepts: Meyer and Land's theory of 'Threshold Concepts': "transformed way of understanding, or interpreting, or viewing something, without which the learner finds it difficult to progress, within the curriculum as formulated" [4] and the resulting

'liminality' (colloquially: feeling all at sea) are fundamental to students learning how to be with 'uncomfortable'. The degree to which a doctor can be with 'uncomfortable' dictates how effective they will be at several levels; for example, emotional self control, flexibility in relation to attachment and detachment to patients, and calm decision making.

Ray Land describes three aspects of liminality:

- "a transformative state that engages existing certainties and renders them problematic and fluid"
- "a suspended state in which understanding can approximate to a kind of mimicry or lack of authenticity"
- "liminality as unsettling – sense of loss" [12]

Attending a first post-mortem invariably induces this state because it confronts us with our own mortality. Liminality correlates with the notion 'void'. This term is used in much philosophical and theological literature: "The void is universal slipping away, central to and constitutive of everything" [13]. The above state can be both disenabling and enabling. Control and acceleration through this process can be gained by using 'zoom facility'; developing the ability to focus your attention on something and to deliberately disengage when this is unproductive and yet be able to return to re-examine this later, is an important part of becoming resilient, which is recognised as fundamental to becoming a good doctor [14].

Pragmatics

Ideally the tutor's role is that of facilitator, rather than distributor of knowledge [15], plus potentially providing 'containment' during phases of liminality. If the roles of pastoral support, teaching, supervision and assessment are combined this provides greater opportunities to work in depth with individual students.

Zoom facility and microadjustments can be facilitated by:

(1) Reflection-in-action: Students may acquire the habit of assuming that because they agree with what they are observing this would translate into acting similarly in a real situation. Performance can be improved by making predictions in the moment. Speech and writing are both performatives [16], which can provide a bridge between observation and taking responsibility for decision making in relation to diagnosis and management; mobile technology can be useful for this purpose.

(2) Reflecting-on-action and reflecting-for-action: Students need guidance to develop critical judgement regarding why, what, when, where, and how to reflect. Tutors and peers play an important role in helping recognise blind spots and also in identifying appropriate approaches to particular events. Asking the right questions is key, followed by clarifying, summarising, reformulating, predicting and planning: independently, collaboratively and in ePortfolios; thus maximising the opportunity to fully integrate learning [6, 17]. High quality feedback enhances reflection: it must be prompt, context specific, demonstrate knowledge and recognition of where a student is at and contain confirmation, or suggestions, for change.

Barriers

Identifying barriers to self efficacy and independent mindedness informs feedback and action plans. Some of these are mentioned below:

- Over-focussing on perceived lack of knowledge or competence

- Dissonance between expectation and experience
- Lack of awareness: student thinks they are on the right track
- Hesitancy: lack of knowledge, lack of confidence, unwillingness to rock the boat, feeling that it is impolite to ask or contradict superiors, e.g. Fukushima conducted a cross cultural study of polite request strategies in British English and Japanese and demonstrated that British and Japanese undergraduates use different politeness strategies when making requests. He concluded that perceptions of power, social distance and the weight of the imposition influenced politeness strategy choice in the two cultures differently [18]
- Staying with what is known and not having the confidence to progress to the next stage
- Defensive entrenchment: fear about the next stage. Psychoanalyst, Bion identified the notion of an 'arrogant knower' who uses this pose to block knowing and development [19]
- Feeling inadequate in relation to peers and settling for mediocrity [20]
- Lack of resilience: overwhelmed by personal life

ePortfolios

How do we develop an ePortfolio that includes competencies, but also integrates and reinforces deep learning, personal identity and self-efficacy? ePortfolio functions that promote deep learning include customisability, default private and free text. In addition, software regarding framework, templates, diary/journal, skill blogs, mistake blogs and 'rant' blogs provide a sense of ownership and promote first order reflection, plus a sense of immediacy, which increases the likelihood of students making connections for themselves. Conversely, certain functions tend to result in shallow and competency driven learning, and these include rigid structure, default to tutor and tick boxes.

Conclusion

Understanding of the above pedagogy promotes awareness of subtlety and flexibility in relation to the learning and decision process, which dictates how knowledge is assimilated and used. If tutors are aware of these aspects it will enhance their capability to engender self-awareness in students and increase the likelihood of creating 'compassionate and resilient practitioners' [14] who exhibit independent mindedness.

The effectiveness of ePortfolios is dependent on the quality of their pedagogical (and technological) support. Underpinning pedagogy can usefully inform the development of ePortfolios: software could be built in to facilitate optimum use of functions to promote integration of personal and professional development by increasing the level of interplay and demand for integration of material to promote continual readjustment.

*"And indeed there will be time
To wonder, 'Do I dare?' and, 'Do I dare?'
Time to turn back and descend the stair...
Do I dare
Disturb the universe?
In a minute there is time
For decisions and revisions which a minute will reverse."*

(T. S. Eliot, 1930) [21]

Acknowledgements

The author would like to thank the staff and students involved in the ALPS project.

References

1. Bateson G. (2000). Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution and Epistemology. 2nd Edition. Chicago, University of Chicago Press.
2. Flavell J H. (1979). Metacognition and cognitive monitoring. A new area of cognitive developmental inquiry. *American Psychologist*. 34(10):906-911.
3. Bloom J W. (2004). Patterns that connect: rethinking our approach to learning, teaching and curriculum. *Curriculum and Teaching*. 19(1):5-26.
4. Meyer J H F, Land R. (2003). Threshold concepts and troublesome knowledge – Linkages to ways of thinking and practising in improving student learning – ten years on. Rust C. (Editor). Oxford, Oxford Centre for Staff and Learning Development (OCSLD).
5. Polanyi M. (1974). Personal knowledge: Towards a post-critical philosophy. Chicago, University Of Chicago Press.
6. Jackson N. (2004). Developing the concept of metalearning. *Innovations in Education and Teaching International*. 41(4):391-403.
7. Heidegger M. (1929). Being and time. Oxford, Blackwell.
8. Collins H. (2010). Tacit and explicit knowledge. Chicago, University of Chicago Press.
9. Gawande A. (2010). The checklist manifesto: How to get things right. London, Profile Books Limited.
10. Swartz R. (1976). Mistakes as an important part of the learning process. *High School Journal*. 59(6): 246-257.
11. Launer J. (2003). Practice, supervision, consultancy and appraisal: a continuum of learning. *British Journal of General Practice*. 53(493):662-665.
12. Meyer J H F, Land R. (2005). Threshold concepts and troublesome knowledge (2): Epistemological considerations and a conceptual framework for teaching and learning. *Higher Education*. 49(3): 373-388.
13. Cupitt D. (1992). The Time Being. London, SCM Press.
14. General Medical Council (2009). Tomorrow's Doctors. London, General Medical Council (GMC). http://www.gmcuk.org/static/documents/content/TomorrowsDoctors_2009.pdf [Accessed August 2010].
15. Ruiz J G, Mintzer M J, Leipzig R M. (2006). The Impact of e-learning in medical education. *Academic Medicine*. 81(3):207-212.
16. Vygotsky L S. (1978). Mind in Society. Cambridge USA, Harvard University Press.
17. Schon D A. (1987). Educating the Reflective Practitioner. San Francisco, Jossey-Bass.
18. Fukushima S. (2000). Requests and culture: Politeness in British English and Japanese. 3rd Edition. USA, Verlag Peter Lang.
19. Bion W R. (1957). On Arrogance. In 'Second Thoughts', pages 86-92. London, Heinemann.
20. Boden M A. (2004). The creative mind, myths and mechanisms. 2nd Edition. London, Routledge.
21. Eliot T S. (1930). The Love Song of J. Alfred Prufrock. In 'The Waste Land and Other Poems'. New York, Harcourt, Brace and Company.

If you would like to subscribe to IJOCS,
please contact subscription@ijocs.org

INTERNATIONAL JOURNAL OF CLINICAL SKILLS



If you wish to submit material for
publication, please email info@ijocs.org