

Building a Learning Theory for Crime Investigation Training

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OBJECTIVE

This paper describes the learning philosophy that underpins the design of the College's crime investigation training in the light of current policing challenges. It also examines a number of learning theories and their application to crime investigation training in the Hong Kong Police Force (HKPF).

The College's crime investigation training

encompasses the following taught programmes of the Detective Training (DT) Division:

- (a) Basic Investigation Course (BIC);
- (b) District Special Duties Squad Course (DSDSC);
- (c) Standard Criminal Investigation Course (SCIC);
- (d) Advanced Criminal Investigation Course (ACIC); and
- (e) Senior Detective Course (SDC)¹.

PART I: A CHANGING WORLD

Challenges

As in other areas of policing, the changing policing environment, changing nature and new instruments of crime and changing demographic composition of the Force result in new demands placed on Force competencies, which in turn have implications for training policy and strategies.



Fig 1: Challenges to Crime Investigation Training

Evolving Policing Environment

With the same accelerating pace that technology and modern communications are changing the pattern of human existence, the policing landscape is drastically redefined in the digital age. Whilst international policing is still constrained by jurisdictional boundaries and inter-agency demarcation, crime has gone beyond national and geographical borders. The modern day criminal is quick to exploit information and communication technology to link up with crime partners across the globe and, in many cases, is better equipped in technology than law enforcers.

Apart from 'glocal' (global-local) crimes, the Internet and social media are presenting new challenges to policing. The contemporary policing framework is built upon a physical policing landscape and no country can claim jurisdiction over cyberspace. There are also difficulties in tracing identities across national boundaries and across jurisdictional differences. These are problems that the modern day crime investigator cannot solve single-handedly without the collaborative effort of the

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¹ Senior Detective Course is currently under development.

international policing community. One solution is therefore to stay networked and connected with relevant and current information and knowledge resources.

Changing Crimes

New technology and technology-aided crimes and new crime busting technology have effectively altered the landscape of crime prevention, investigation and detection. Learning for the present-day crime investigator demands not just application of skills learnt but also creation of innovative solutions to crime. Detective learning therefore requires the highest order processes of analysis, evaluation and creation on Anderson and Krathwohl's revised Blooms' taxonomy (cognitive domain) (Anderson and Krathwohl, 2001).

Because crimes are becoming more sophisticated and technology facilitated crimes are on the increase, the modern detective is also required to engage in career-long learning. Much of such learning needs to be self-directed, not least because of limited training resources but also because of the unpredictable nature and emerging tools of crime.

A New Generation of Crime Investigators

Demographically, HKPF crime teams are made up of officers from mixed groups; with the majority of Police Constables and Inspectors within the team coming from the tech savvy, achievement-oriented post-80s Generation Y, who are ready for greater responsibilities and are committed to self-directed learning². Like any other HKPF teams, the generational mix within

crime teams is such that supervisory and subordinate officers with different generational values will have to be trained to cooperate and collaborate.

Crime detection in this decade requires greater expertise. Crime teams will either have to grow their own technological capabilities or adopt a more flexible structure to co-opt officers with specialist knowledge/skills, e.g. as crossfunctional matrix teams. Crime teams will also have to collaborate, not only within the team but also with other special crime investigation units, other Government departments and in a wider sense the international policing community.

In collaborating, crime officers would need to have a basic appreciation of what to look for. Demand for knowledge for the next generation of crime investigators will therefore increase not only in depth but also in breadth.

PART II: MANAGING CHANGE THROUGH TRAINING / LEARNING

Training vis-à-vis Learning

For the purpose of this paper, it is necessary to draw a distinction between training and learning. Training is the formal learning process through organised intervention aimed at improving performance. It has a specific learning objective and includes any form of structured learning such as classroom lectures, structured distance and e-learning.

Learning is a wider term than training and covers all forms of

acquisition of knowledge, skills and attitudes/behaviour. It is not limited to the classroom and can happen consciously in instructor-led studies or unconsciously through interaction with the environment. It includes all forms of workplace learning, social interaction as well as more structured organisation-provided and self-directed learning.

The College balances training and learning. It positions itself not only as a training provider to achieve organisational competencies but also as a facilitator of lifelong learning. For structured training intervention, the guiding principle is to provide competency-based training within a training content continuum. For facilitating career-long learning, the basic tenet is to encourage individual learning commitment and responsibility.

Competency-based Training

Learning must be aligned with immediate operational requirements. Challenges of the changing world require the Force to acquire new and more complex organisational competencies, which also result from high community expectations and the consequential expanding and extending portfolio of Force duties.

According to Boyatzis (1982), competencies are individual capabilities that bring about desired results in meeting job demands within an organisation; that is, they should contribute to superior job and organisational performance.

In the Force, the competencies that contribute to superior performance are classified as core, functional or

² According to a survey conducted in 2008, career advancement opportunities and learning and development opportunities ranked the second and third in the top 10 drivers among Hong Kong Generation Yers. Marieke van Raaij (2008). "What makes Gen Y tick?" December 11th 2008, http://www.eu.gov.hk/english/cmps/files/cmps 20081211b What Makes Gen Y Tick.pdf, accessed 2010-09-27

Table 1: Competencies for Crime Officers

Core Competencies

- Professionalism
- Leadership
- Communication
- Judgment
- Staff Management [for Inspectors and Non-Commissioned Officers (NCOs)]
- Resource Management

Functional Competencies

- Crime Investigation Skills

Psychological Competencies

- Victim Psychology
- Handling of Domestic Violence
- Psychological Skills in Suspect Interviewing
- Handling Persons with Mental Disorder and Mental Incapacity
- Enhancing the Memory of Witnesses
- Handling Vulnerable Crime Witnesses
- Understanding Offender Profiling and Psychological Autopsy
- Psychology of Criminal Behaviours

psychological competencies in the competency framework that applies to officers from the rank of Police Constable up to middle management, at Superintendent level.

Force training and development is mapped against this competency framework. Table 1 illustrates different competencies of a crime officer.

Training Content Continuum

A service-oriented police organisation must generate the greatest public value with limited public resources. In one sense, therefore, learning and development must be responsive to officers' learning needs and meet operational demands within a manageable budget, and must be made available just and only at the time when it is needed.

In the past, aspiring crime officers were trained in a whole arsenal of skills to solve local crimes at the start of their career. However, with the digital age of borderless crimes, the traditional belief in equipping budding detectives with all-round investigation knowledge/skills becomes thinking of the past and a drain on tight government coffers.

To optimise limited training resources and to ensure currency of detective competencies, the College adopts a continuum approach to formal training. In other words, taught courses focus on immediate operational needs but because of the constantly changing face of

crime, self-learning platforms are made available to allow officers to engage in career-long, self-directed learning.

The crime investigation training continuum is mapped against an officer's career path as they progress from limited investigative Uniformed Branch crime duties (Basic Investigation Course) to senior managerial positions (Senior Detective Course) in the crime stream. Figure 2 presents the training continuum in crime investigation.

The training continuum model has the advantage of preventing duplication of training. Because these posts have clearly defined investigative duties, even training in generic crime investigative skills, such as video interviewing skills, or presentation of evidence in court, has a different focus on different courses. An example is video interviewing skills, which take the form of a theoretical introduction on BIC, a practical workshop on DSDSC, developmental training on SCIC and more advanced training on ACIC.

Table 2 gives details of the course objectives of the different crime investigation courses in the continuum.

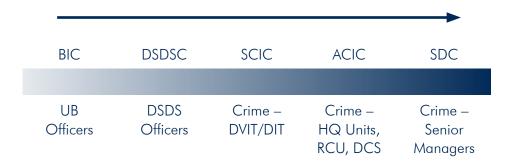


Fig 2: Training Continuum for Crime Investigation Programmes

Table 2: Training Continuum for Crime Investigation Programmes

Basic Investigation Course (BIC)

The primary aim is to provide training in basic investigation techniques to UB police officers to shoulder the responsibilities of basic non-crime investigative work.

District Special Duties Squad Course (DSDSC)

The primary aim is to provide officers who are attached or will be attached to District Special Duties Squad with updated information about dangerous drugs, vice and illegal gambling activities and practical application of investigative skills in dealing with these activities.

Standard Criminal Investigation Course (SCIC)

The primary aim is to provide basic criminal investigation skills training to UB officers under consideration for appointment to Divisional/District crime duties.

Advanced Criminal Investigation Course (ACIC)

The primary aim is to provide training in advanced criminal investigation techniques to crime officers so that they can competently shoulder the responsibilities of an investigator at District, Regional and Headquarters levels.

Senior Detective Course (SDC) [Under Development]

The primary aim is to provide training to Senior Crime Managers to enhance their professional knowledge on management of serious and complex investigations.

Learning as Individual Responsibility

In this digital age, there is a need to shift from organisation-provided training to self-directed learning. Success in making the paradigmatic shift depends inter alia on cultural change, a shift away from the belief in training as organisational provision, engagement and commitment at all levels, alignment with immediate business requirements, availability of learning resources and complimentary training interventions (Chartered Institute of Personnel and Development, 2005).

In engineering the eventual shift to self-directed learning, the College cultivates awareness that learning is self-development and a gateway to opportunity. The College emphasises learning as a fundamentally personal responsibility. Officers seeking to acquire new job-specific competencies via part-time studies are therefore

expected to contribute their own time while the College may provide limited financial support.

College support for individual learning comes in different forms, from learning information and e-learning packages on the Learning Portal, to financial support in the form of reimbursement of course fees for Inspectors and Junior Police Officers, and management development programmes for middle to senior management.

Transparency and equity are the governing principles for allocation of training places. An example is overseas training and attachment, which is open to officers of all ranks. For crime investigation, the Force sponsors selected crime officers to attend overseas courses such as the Crime Scene Investigation Course and Complex Financial Investigation Course at the International Law Enforcement Academy (ILEA), Bangkok; or the National Senior

Investigating Officer Development Programme organised by the Crime Academy, Metropolitan Police Service (MPS), London.

The College's learning support is aligned with immediate operational requirements. For example, the Peer Adviser Scheme (AdvisoryNet), which is a pivotal component of the Force Knowledge Management System, links officers to people resources on major current policing issues such as crime, public order policing, domestic violence and child abuse. Apart from its expert locator function, the Peer Adviser Scheme operates structured formal sharing. For example, a 2010 Knowledge Café provided the latest updates on policy and procedures for handling domestic violence related reports.

One monitoring mechanism, and motivating factor, for individual learning is the Force's performance management system, where both supervisors and supervisees agree on and implement personal development plans based on performance gaps, operational needs, individual aspirations, and available learning opportunities. Insofar as is practicable, career postings are tied to qualifications, giving officers the incentive to learn and bring new knowledge and skills to the posts.

PART III: CRIME INVESTIGATION TRAINING

Training Objectives

The starting point of crime investigation training is training needs analysis (TNA), which helps determine the objective, scope as well as the breadth and depth of training required. Views are collected by means of survey questionnaires, focus group discussions and interviews from stakeholders, including prospective

learners, their immediate supervisors, crime managers as well as on-site observations and document reviews.

Generally, the following are training objectives generated from TNA for crime investigators. They are to:

- (a) provide necessary competencies
 [i.e., knowledge, attitudes, skills
 and experience (KASE)] for crime
 investigation;
- (b) equip officers with practical skills and a creative approach in the handling of crime cases at different levels, i.e., Headquarters, Regional, District and Divisional levels;
- (c) cultivate skills for self-direction and self-organisation in learning; and
- (d) orientate participants to establishing networks and connection with information sources including e-databases and crime investigation specialists to keep pace with rapid knowledge development in a complex world.

In a nutshell, crime investigation trainees should be trained not just on the know-what, know-how and know-why, but also the know-who and know-where of crime investigation as well as learning how to direct their own learning.

Review of Relevant Learning Theories

In building a meaningful learning approach for crime investigation training, the College has reviewed and eventually assimilated a number of learning theories in its design. The following is a brief discussion of some of the learning theories, which underpin the College's crime investigation training.

Andragogy (Adult Learning)

Knowles (1975, 1984, 1990) posits the following principles about adult learning:

- (a) adult learners are self-directed, taking responsibility for their own learning;
- (b) adults bring along their life experiences (including mistakes) and knowledge;
- (c) adult learning is problem-centred; and
- (d) adults learn best with topics of immediate relevance and value.

Team-based Learning

Developed by Larry Michaelsen at the University of Oklahoma in the late 1970s, team-based learning steers away from traditional instructor-led lectures to participative learning in a team³. In his view:

- (a) a team should be fairly permanent and diverse;
- (b) individuals should be accountable for pre-class preparation and contributions to the team. The team should also share accountability for quality performance;
- (c) team assignments should promote individual learning and team development; and
- (d) facilitators' feedback should be frequent and immediate (Michaelsen, 2002).

Problem-based Learning

Originating from the University of McMaster medical school in Canada in 1960s, problem-based learning arose out of the need to enable medics to master patient diagnosis, which relied on a combination of a hypothetical-deductive reasoning process and expert knowledge in multiple domains amidst a rapidly changing knowledge base in science and medicine (Savery and Duffy 1995, Savery 2006). Problem-based learning requires:

- (a) learner ownership;
- (b) free enquiry;
- (c) real-life scenarios;
- (d) competency-based learning; and

(e) instructors' facilitation and debriefing.

Connectivism

Pioneered by George Siemens (2004, 2006) as a learning theory for the digital age, connectivism regards learning as chaotic and messy. Learning is the process of creating specialised networks: an external network resides in information and knowledge resources like people, organisations, libraries, and websites whereas an internal network is the individual's mind. Learning is therefore continual co-creation of knowledge out of these complex and adaptive networks that change with every alteration of component nodes from within. Because of this, knowledge is always in a state of flux; it may have a short shelf life. In Siemens' view, there is always a 'continual suspended certainty ... certainty is for a season, not a lifetime'.

Learning networks can then be perceived as structures that we create in order to stay current and continually acquire, experience, create and connect new knowledge (external)... and ... structures that exist within our minds (internal) in connecting and creating patterns of understanding (Siemens, 2006).

Connectivism regards learning and knowledge environments as diverse and democratic. Network and ecology must be 'dynamic and capable of evolving, adapting and responding to external change'. Because of this, learning exists in 'shades, continuums and blurred boundaries' (Siemens, 2006).

Connections ensure current, relevant and contextually appropriate content (knowledge) is accessible at the

³ Centre for Teaching. "Team-based Learning (TBL): Effective Teaching in Large and Small Class Settings". http://10.50.251.21:8080/0b1d355b6 a2d/comfort-file/5195 be46 98cd00ce c9fc 11df 93a7 0019b9e8e768/Intro%20to%20Team-Based%20Learning.pdf, accessed 2010-09-27

point of need. In the connectivist model, cognitive capabilities are 'offloaded' onto networks while the individual thinks, reasons and functions at a higher level (Siemens, 2006, 2006a).

College's Crime Investigation Training

Training is built upon a model that is relevant (learning content), team-oriented and collaborative (investigative skills development), problem-specific and authentic (learning materials), facilitated and reflective (learning mode), self-directed (learning skills development), and connected and networked (continuing professional development).

Relevance

To make learning meaningful and relevant, the content of crime investigation training is designed to meet the specific job requirements of crime officers.

Apart from generic areas like legislation, crime investigation training covers specific crimes and specific investigative skills. To make learning personally meaningful and strengthen whole-person development, psychological competencies and personal effectiveness also add a different dimension to crime investigation.

Team Orientation and Collaboration

Trainees on BIC, DSDSC, SCIC and ACIC are arranged into learning teams, which are structured and adapted on the foundation of Michaelsen's team-based learning model, for example:

(a) the learning team resembles a crime investigation team structure and duties, comprising officers of the same number and same different ranks as an actual

- team. Participants are expected to work cooperatively with and independently as investigating officers in the team;
- (b) each team member is held accountable for in-class and outof-class practicum and projects;
- (c) assignments are designed to consolidate individual investigative skills as well as develop group cohesiveness; and
- (d) the Instructor remains a facilitator, giving continuous coaching and feedback in the process.

Problem Specificity and Authenticity

Investigative scenarios are chosen from amongst the types of cases a crime officer receives on a daily basis, whether at Headquarters, Regional, District or Divisional level. Depending on the training, these cases may range from lesser offences like theft and missing person to more complex ones like rape, business frauds and robbery. All scenarios are selected for their specific learning objectives, which embed competencies required for real detective work.

Trainees are expected to create meaning and construct their own knowledge in the problem-solving process. They are given the chance to engage in free enquiry, and to try out different investigative methods and lines of enquiry. For each scenario, they are given materials to work on that require developing skills, for example, from appreciating the crime scene, sifting through a labyrinth of clues to resolving the case, and presenting evidence acceptable to the court.

By scheduling practical exercises at the Tactical Training Complex, trainees are given the chance to interact with the physical environment of a simulated crime scene. While adding interest and authenticity to the learning, it provides the problem context and the problem manipulation space for the trainees to test investigative skills in a simulated environment (Jonassen, 1999).

Facilitation and Reflection

Coming from different policing backgrounds, with or without prior crime investigation experience, learners bring with them their current police knowledge, which forms the starting point for their learning.

Instructors facilitate the learning, shadowing the team throughout the process. They challenge learners' thinking without dictating or proceduralising the process (Savery and Duffy, 1995 and Savery, 2006).

Trainees are encouraged to reflect on their learning, including their roles in the team, the approach taken to problem-solve the crime cases, and decisions made including the rationale involved. Instructor debriefing post-learning also encourages learners to critically evaluate their own learning process and learning outcomes (Savery and Duffy, 1995 and Savery, 2006).

Self-Direction

Crime investigation training does not begin, and does not end, with formal classroom training. Trainees are assigned pre-training reading tasks, which comprise crime investigation orders and procedures detailed in Force orders and manuals.

During the course, trainees are given the opportunity to develop learning/research skills as they are required to research crime-related or other social topics of their own choice and through debate/discussion/presentation of research findings, are expected to clearly delineate the issue, analyse problems and

offer viable solutions. In the process, trainees assume 'primary responsibility for planning, implementing, and evaluating the learning process' (Brockett and Hiemstra, 1991).

Trainees are also encouraged to embrace learning as a lifelong pursuit, by nurturing a 'desire or preference for assuming responsibility for learning' (Brockett and Hiemstra, 1991).

Connectivity and Networking

Interlinked between different learning phases on the training are a series of experts' presentations and visits. These sessions provide trainees with an opportunity to meet and network with crime specialists, forensic scientists, prosecutors, credit card fraud investigators, etc. as well as frontline crime managers, connecting them with important people information resources. Because modern crime teams cannot hope to have all the expertise needed for solving sophisticated crimes within the team, they depend on collaboration with specialists. Networking starts in the classroom when the trainees know who to approach and what to ask from crime specialists.

Trainees are also connected with systemic information resources through Force crime systems and the Learning Portal, which houses a number of crime investigation e-learning packages as well as the Force Knowledge Management System, which hosts useful policing materials.

Training in Action

Choice of delivery methods is dependent on a host of variables. MIT Training and Development postulates that training design factors including targeted learning, learning objectives, content, course lifetime, design needs, participants, intangibles, evaluation and resources precondition delivery methods chosen. In the College, delivery methods relevant to crime investigation training are learning objectives, participants' experience and potential for self-directed learning.

To cater for these variables, training delivery in the classroom includes theoretical learning, practicum and self-paced learning. Programmed instruction provides a framework to help knowledge and skills transfer to the workplace where officers will have to deal with different case scenarios. Practical exercises heighten crime appreciation while self-paced learning is designed to strengthen self-learning capability and resource management.

Some of these delivery methods also contribute to developing specific competencies. For example, according to Internationale Weiterbildung (2003), programmed instruction contributes to technical competency

development, case studies and research to methodological competency (i.e. problem-solving capability), and roleplays to social competency (team-oriented and interpersonal cooperation).

In the College's crime investigation training, different delivery methods are used in combination because variety and multiplicity of training methods are viewed as conducive to teaching-learning effectiveness (Internationale Weiterbildung, 2003). However, the focus may differ on different courses. For example, BIC targeting on non-crime duties will get a higher proportion of theoretical training such as tutor input and lectures than SCIC where prospective crime officers will need greater hands-on experience in crime investigation.

Table 3 summarises training delivery approaches used for crime investigation training.

Table 3: Delivery Modes for Crime Investigation Training

Programmed Instruction

- (a) Tutor input. Formal lectures usually follow practical assignments to allow an opportunity to acquire a clear understanding of crime investigation skills and procedures and to solve case-specific problems.
- (b) Guest lectures. Crime experts including forensic scientists, specialised police units and other government experts such as Government Chemists and Government Counsels are invited to lecture on specialised topics to keep trainees abreast of new crime investigation tools and technology.

Practicum

- (a) Case studies. In-class discussions of concluded cases are designed to strengthen trainees' appreciation of crime solution skills and pitfalls to avoid in the crime investigation process.
- (b) Field exercises. Emphasis is given to activity-based learning. Field exercises provide a simulated learning environment where trainees either apply skills learnt or are given an opportunity to develop problem-solving skills. Trainees are also encouraged to reflect on their learning and learning process during debriefings.

Self-paced and Self-directed Learning

- (a) E-learning. Trainees engage in e-learning before, during or after the course.
- (b) Research. Research not only strengthens trainees' appreciation of specific crimes but also enables trainees to build up research experience and skills.

PART IV: CONCLUSION

The changing digital world challenges organisational, as much as individual, competencies such that formal training provision may not provide an adequate solution to rapidly changing future demands. The College has therefore moved from the position of traditional classroom training to a combination of classroom training and facilitated self-learning. Because crimes are changing face with technology, it is necessary to teach officers how to learn and encourage them to connect/network with other crime investigators. This is in addition to teaching them specific crime solution skills.

Learning outcomes should henceforth be measured not only by learners' acquisition of relevant knowledge/skills but also their alertness to stay connected with information and knowledge resources and skills to continually generate knowledge right at the point of need.

Formal training must however be maintained for the purpose of quality assuring, auditing and providing auditable information about organisational competencies.

References

- Anderson, L. W. & Krathwohl, D. R. (Eds) (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives. New York: Addison Wesley Longman.
- 2 Barrows, H. S. & Tamblyn, R. M. (1980). Problem-based learning: An approach to medical education. New York: Springer.
- 3 Boyatzis, R. E. (1982). The Competent Manager. John Wiley.
- 4 Brockett, R. G. and Hiemstra, R. (1991). "A conceptual framework for understanding

- self-direction in adult learning" in Self-Direction in Adult Learning: Perspectives on Theory, Research, and Practice. London and New York: Routledge. Reproduced in the informal education archives: http://www.infed.org/archives/e-texts/hiemstra_self direction.htm, accessed 2010-09-29.
- 5 Centre for Teaching. "Team-based Learning (TBL): Effective Teaching in Large and Small Class Settings", http:// 10.50.251.21:8080/0b1d355b6a2d/comfort-file/5195_be46_98cd00ce_c9fc_11df_93a7_0019b9e8e768/Intro%20to%20Team-Based%20Learning.pdf, accessed 2010-09-27.
- 6 Chartered Institute of Personnel and Development (2005). "Change Agenda", April 2005, http://www.cipd.co.uk/NR/ rdonlyres/52AF1484-AA29-4325-8964-0A7A1AEE0B8B/0/train2lrn0405.pdf, accessed 2010-10-27.
- 7 Internationale Weiterbildung und Entwicklung gGmbH, Capacity Building International Germany (2003). "Competency-based Training: Compilation of seminar subject matter: Training-the-Trainers". Beitrage aus der Praxis der beruflichen Bildung Nr 1, http://starwww.inwent.org/starweb/inwent/docs/Lehrbrief_01_engl.pdf, accessed 2010-10-27.
- 8 Jonassen, D. H. (1999). Designing constructivist learning environments. In C. M. Reigeluth (Ed.), Instructional design theories and models: A new paradigm of instructional theory, Volume II, 215-239. Mahwah, NJ: Lawrence Erlbaum Associates.
- 9 Knowles, Malcolm (1975). Self-Directed Learning. Chicago: Follet.
- 10 Knowles, Malcolm (1984). Andragogy in Action. San Francisco: Jossey-Bass.
- 11 Knowles, Malcolm (1990). The Adult Learner: A Neglected Species (4th Ed). Houston: Gulf Publishing Company, Book Division.
- 12 Massachusetts Institute of Technology, Training and Development, http://web. mit.edu/training/trainers/guide/design/ lifetime.html, accessed 2010-10-20.

- 13 Michaelsen, Larry, A B Knight and L D Fint (Eds)(2002). Team-Based Learning: A Transformative Use of Small Groups. Praeger Publishers.
- 14 van Raaij, Marieke (2008). "What makes Gen Y tick?" 11 December 2008, http:// www.eu.gov.hk/english/cmps/files/ cmps_20081211b_What_Makes_Gen_Y_ Tick.pdf, accessed 2010-09-27.
- 15 Savery, John R. and Thomas M Duffy (1995). "Problem Based Learning: An instructional model and its constructivist framework" in Educational Technology, 35, 31-38. Also in B. Wilson (Ed) Constructivist Learning Environments: Case Studies in Instructional Design, 1995, 135-150, http://crlt.indiana.edu/publications/duffy_ publ6.pdf, accessed 2010-09-27.
- 16 Savery, John R. (2006). "Overview of Problem-based Learning: Definitions and Distinctions" in The Interdisciplinary Journal of Problem-based Learning, Vol 1, No. 1 Spring 2006, http://www.ijpbl.org/, accessed 2010-09-27.
- 17 Siemens, George (2004). "Connectivism: A Learning Theory for the Digital Age" 12 December 2004, http://www.elearnspace. org/Articles/connectivism.htm, accessed 2010-09-28.
- 18 Siemens, George (2006). "Connectivism: Learning and Knowledge Today" in Global Summit 2006: Technology Connected Futures, http://dspace.edna.edu.au/ dspace/bitstream/2150/34771/1/ gs2006_siemens.pdf, accessed 2010-09-28.
- 19 Siemens, George (2006a). "Knowing Knowledge", http://10.50.251.21:8080/0b1d355b6a2d/comfort-file/4725_c916_2ec863c2_cad2_11df_beaf_0019b9e8e768/KnowingKnowledge_LowRes.pdf, accessed 2010-09-28.
- 20 "Team-based Learning: An Alternative to Lecture-based Learning", http://www.regis. edu/content/rhpharm/pdf/Learning_With_ TBL.pdf, accessed 2010-09-27.

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