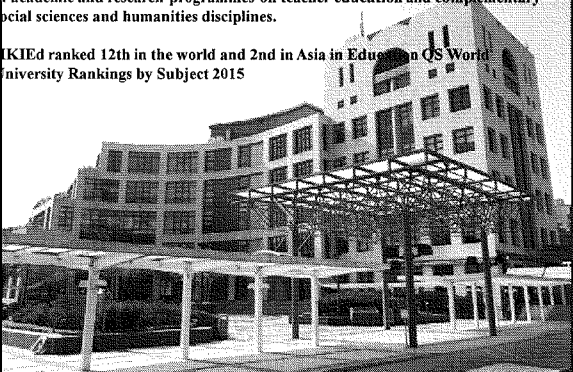


**Universal Academic Cluster
International Spring Conference in Nagoya
3 - 5 April 2016 Nagoya, Japan**

**Personal Knowledge Management Curriculum
for Higher Education Institutions**
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The Hong Kong Institute of Education is a publicly-funded tertiary institution dedicated to the advancement of teaching and learning, through a diverse offering of academic and research programmes on teacher education and complementary social sciences and humanities disciplines.

KIEd ranked 12th in the world and 2nd in Asia in Education QS World University Rankings by Subject 2015

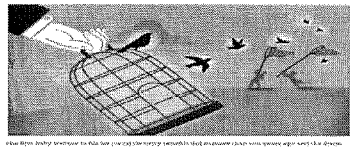


- Why KM?
- What is Knowledge?
- What is Knowledge Management?
- What is Personal KM?
- Why is PKM related to learning?
- How to develop PKM?


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Why KM?

Keeping deep knowledge from being lost





Source: <http://www.informationweek.com/articles/keeping-deep-knowledge-from-being-lost>



NASA Lost Memory

- Loss of knowledge of manned space flight (putting a man on the moon)
 - Loss of Apollo Mission Documents, esp. the critical set of blue prints for the Saturn booster, the only rocket with enough thrust to send a manned lunar payload on its way
 - Loss of documents for landing on the moon
- Unlearned lessons from Challenger accident
 - NASA has a culture that is **resistant to criticism and to change (mental model)**
 - **ineffective communication**

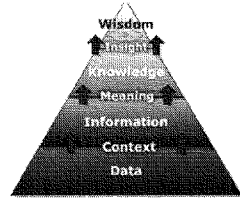
Petch, G. 1998. The cost of lost knowledge. Knowledge Management Magazine, October. <http://www.knmagazine.com>.

What is knowledge?

Knowledge	Positivist Perspective	Social Constructivism Perspective
Definition of Knowledge	<ul style="list-style-type: none"> • As an object • A justified true belief • possess by people • "A collection of representations of the world, which is made up of a number of objects and events" (Chiva & Alegre 2005, p53). 	<ul style="list-style-type: none"> • Socially constructed as a process, created by people • Not as a representation, but as constructing or creating acts (Vo, 2012) • "Neither universal nor abstract rather depends on context" (Chiva & Alegre 2005, p58)
Existing Form	<ul style="list-style-type: none"> • Visible, objective and rational • Explicit knowledge • Can be codified and stored 	<ul style="list-style-type: none"> • Unseen, subjective and experience based. • Tacit knowledge • Shared through communication
Location of Knowledge	<ul style="list-style-type: none"> • Locates at written and verbal information recorded in video, audio, data based and documents 	<ul style="list-style-type: none"> • Resides in knowledge individuals' minds and/or communities of practice
KM strategies	Codification	Personalisation

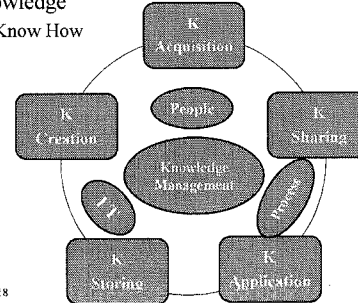
Data, Information and Knowledge

- (Data)
- (Information)
 - Data in Context
- (Knowledge)
 - Information with Action



What is KM?

- KM is strategic management process that focuses on knowledge
 - Know How

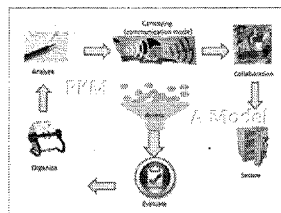


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Personal Knowledge Management

- PKM is a conceptual framework to organize and integrate important information such that it becomes part of an individual's personal knowledge base (Frاند & Hixon 1999).



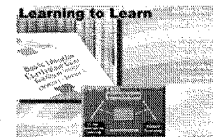
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Why PKM

- Organization KM need individual support!
- Learners need learning skills to survive in the knowledge society!
 - Increasing the amount of information do NOT automatically make learners more informed or knowledgeable.
 - If a learner cannot manage and meld the accumulation of information through their daily experience and study to construct knowledge in a systematic fashion, their learning will not be effective.
- To develop learners with this competency is an important lifelong education issue.



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Why PKM?



- lifelong education issue have be address by proposing a *learning to learn* slogan in the Education policy document.
- The policy suggests that teachers should develop student learning competence for acquiring knowledge through various methods.
- How to develop pre-service teacher with this competency for teaching could be a significant research issues.

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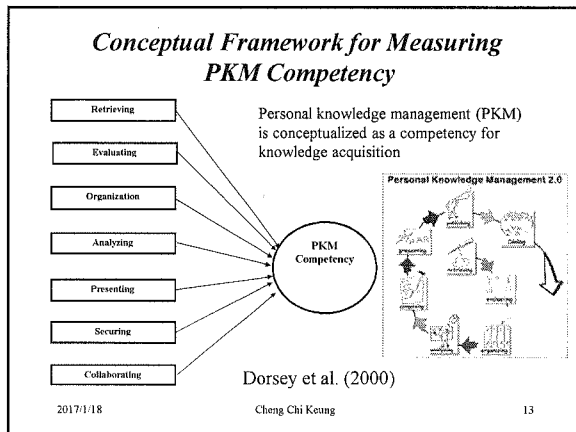
Literature on PKM

- Conscious strategy
 - Frاند & Hixon (1999)
- Information literacy, Skills based
 - Avery, Susan; Brooks, Randy; Brown, James; Dorsey, Paul; and O'Conner, Michael. (2001) & Dorsey P. (2000)
 - Skyrme, D.J., (1999)
 - Hyams. R. (2000)
- Problem solving activities with specific cognitive, information, social and learning Competencies, Competency
 - Wright, K. (2005)
- Technology-centric view
 - Tsui E

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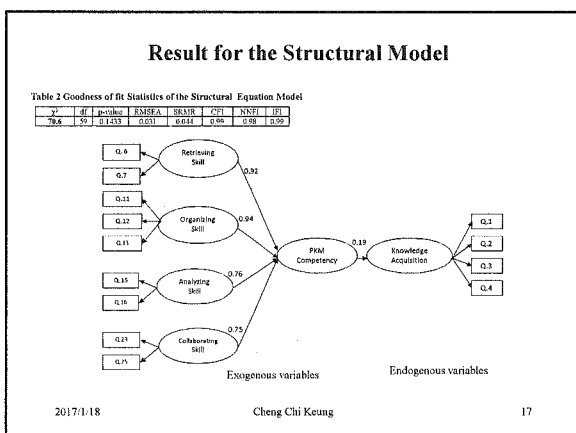
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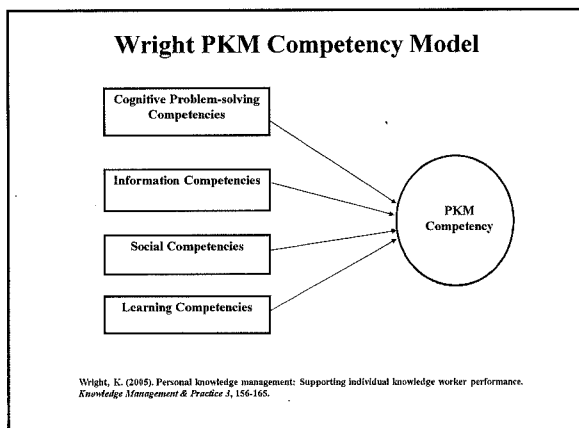
- ### Operational Definitions of each PKM Scales
- Retrieving skill is the ability of learners to retrieve information from relational databases, electronic library databases, websites, threaded discussion groups, recorded chats, and moderated and unmoderated lists.
 - Evaluating skill is the ability to make judgments on both the quality and relevance of information to be retrieved, organized, and analyzed.
 - Organizing skill is the ability to make the information one's own by applying ordering and connecting principles that relate new information to old information.
 - Collaborating skill is the ability to understand others' ideas, develop and follow through on shared practices, build win-win relationships, and resolve conflicts between these underlying principles.
 - Analyzing skill is the ability to extract meaning from data and convert information into knowledge.
 - Presenting skill is the ability to familiarize with the work of communications specialists, graphic designers, and editors.
 - Securing skill is the ability to develop and implement practices that help to ensure the confidentiality, integrity and actual existence of information.
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- ### Content Validity of the instrument
- Subscale 1 (PKM1): Retrieving**
 - It is easy for me to retrieve teaching material from the internet.
 - I will never search through the internet without targets.
 - I know how to retrieve the teaching material of my subject effectively.
 - Subscale 2 (PKM2) Evaluating**
 - I will clarify my information needs
 - Review the value and the index of stored information on a regular basis
 - I always judge the quality and relevance of various pieces of information to the problem at hand after retrieving from somewhere.
 - Subscale 3 (PKM3): Organization**
 - I use ordering and connecting principles that relate new information to old information.
 - I connect and organize information with electronic tools such as directories and folders, databases, web pages, and web portals.
 - I always synthesis and analysis information

- Subscale 4 (PKM4) Analyzing Information.**
 - I can handle educational research data analyzing
 - I can use MS Excel for statistical data analysis.
 - I can interpret the hidden meaning of research information
- Subscale 5 (PKM5): Presenting**
 - I always consider the purpose of the presentation that related to audience for adjusting my presentation.
 - I use graphs and tables to illustrate some complex idea and concepts.
 - I will clarify the purpose of the presentation before presenting.
- Subscale 6 (PKM6): Securing**
 - I change my passwords regularly.
 - I backup my documents and files regularly.
 - I am able to frame tradeoffs regarding security in more complex information sharing relationships with others.
- Subscale 7 (PKM7) Collaboration**
 - I can share relevant information to other team members for completing the team tasks.
 - I can conduct virtual meetings with other members via communicative software.
 - Sharing information with team members can enhance team working effectiveness.



- ### Implications: Toward a PKM Curriculum
- PKM is a multiple competency that contribute to pre-service teachers' learning.
 - Teacher educators should consider to inject PKM elements into the pre-service teacher training programme for enhance their learning.
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PKM could be injected into an educational framework for undergraduate education in order to bridge the gap between general education and other subject disciplines (Dorsey et al 2000).

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PKM Curriculum

- Assigning collaborative tasks (Hauge & Wittek, 2003)
- Know how to apply statistical, search and collaboration software is compulsory skills for managing knowledge in a knowledge society
- Using e-learning activities (Pettenati, M.C., Cigognini, M.E. (2009)
- Integrate with collaborative action research into the pre-service teacher education curriculum.
- This could be significant assistance to pre-service teachers in retrieving, organizing, analyzing and collaborating information across all disciplines.

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TDG Project Developing Personal Knowledge Management Training Curriculum Guide and Resources

- **Aims:**
 - To develop a Personal Knowledge Management (PKM) curriculum guide and resources to teacher educators for nurturing pre-service teachers' PKM competencies and instructional design skills
- **Deliverable:**
 - This project intends to adopt Dorsey's PKM model to develop a curriculum guide and related resources that could be implemented in BEd programme of our Institute for developing pre-service teachers' PKM competencies.
- **Activities:**
 - The elements of PKM tools application, e-learning activities and collaborative action research will be developed and injected to the experiment courses (at least 8 courses from subject major, professional study, field experience and language courses) as an intervention to confirm the pre-service teachers' PKM competency framework.

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The project team aims to achieve the following strategic targets:

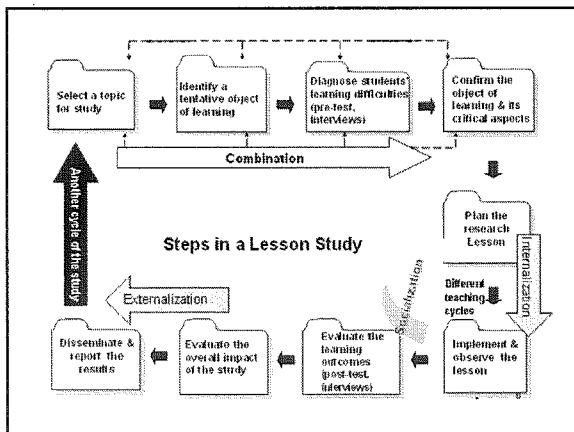
1. To formulate and verify a set of e-learning activities that can enhance pre-service teachers PKM competencies;
2. To identify the PKM tools that could support instructional design;
3. To develop a PKM training guide for teacher educators; and
4. To disseminate the importance of PKM competencies in teacher education in the knowledge society.

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2014-15 SEM 1 Infusing PKM Skills into Learning Study Course

- Learning study course involves several groups of pre-service teachers to work on the design, implementation, testing, and improvement of one research lessons through practising their PKM skills.
- They have to retrieve, evaluate, organize the teaching materials, to analysis student learning difficulties and to present their thinking throughout the course.
- Learn by online video
- Communicate with me through whatap
- The focus of the research lesson lies in a specific teacher-generated problem, goal, or vision of pedagogical practice, which is carefully planned in collaboration with classmates, observed by other classmates via VBLC, recorded for further analysis and reflection, and discussed by all classmates of the learning study course.
- During the course, pre-service teachers are taught the theories and practice of Learning Study and PKM tools in tutorials, and then work together in small subject groups through collaboration tools with support and guidance from the instructors to implement the Learning Study project.
- The training model of this project involves the development of participants' PKM skills by conducting cognitive, metacognitive, e-learning and collaborative learning activities.

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Evaluation of the effective of the Learning Course on developing their PKM

Scale	Pretest			Posttest			T-test (Post - Pre)	
	N	Mean	SD	N	Mean	SD	t	Sig
Retrieval	33	4.03	0.783	27	4.49	0.602	2.524	p < 0.05
Evaluate	33	4.25	0.672	27	4.56	0.606	1.815	-
Organize	33	4.21	0.666	27	4.44	0.601	1.367	-
Analyze	33	3.74	0.661	27	4.30	0.700	3.175	p < 0.05
Present	33	4.44	0.660	27	4.46	0.540	0.078	-
Sequre	33	3.75	0.874	27	4.12	0.828	1.697	-
Collaborate	33	4.61	0.503	27	4.65	0.566	0.349	-

2017/1/18 Cheng Chi Keung 6 points Scale 26

- ### Future Project Plan
- Develop *cognitive, metacognitive, e-learning and collaborative learning activities*.
 - build innovative and effective instructional design mode which meet the needs of knowledge-construction, reflection and meta-cognition in the teacher education context.
 - **Try our PKM tools** through the e-learning activities
 - search/index tools, meta-search tools, information capture and sharing tools, associative link tools and concept/mind mapping tools, email management, voice recognition, collaboration and synchronization and learning tools.
 - using wiki and Google Docs to support and develop PKM skills.
 - Delivery the activities by action research approach.
 - Try out in different courses form others faculties.
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**End of Presentation.
Thank you.**