

**THE UNIVERSITY OF MACAU**  
**Faculty of Science and Technology**  
**Department of Computer & Information Science**

**Dr. Kam Hou Vat**

**Statement of Teaching Philosophy**

---

**Background**

Higher education is in the throes of a major transformation at the University of Macau (UM), where general education (GE) is now officially a major component of UM's undergraduate education model, including disciplinary programs, general education programs, undergraduate research (internships) programs, and living-and-learning (residential colleges) programs. Meanwhile, the University senior management has identified with the important use of educational technology to support a learning process in which learners can communicate with their instructors and their peers, and access learning materials over the Web. Indeed, the idea of an electronic learning (e-learning) platform blending the traditional face-to-face interactive classroom with the innovative online (anywhere, any time) learning environment has brought forth many a possibility in enhancing and assessing teaching and learning in the campus community. The question of interest is how best student learning could be empowered through the strengthening of suitable e-learning facilities.

I am keen on investigating the use of the various pedagogies and technologies in college education, and the impact of inquiry-based learning – an appropriate pedagogy to encourage active learning, combined with various forms of online support to track student learning, such as an electronic portfolio (e-Portfolio), one of the latest learning technologies to support formative assessment and continuous improvement, in the context of college education. Of particular interest in the exploration should include the action research involving the teacher-researcher(s), reporting on the experience gained from using inquiry-based learning to deliver (to design) specific major or GE courses (learning experiences), through a blended learning approach, concentrating on how students' learning e-Portfolios could have been established, updated, assessed, and showcased. In the context of the related program intended learning outcomes (PILOs), the investigation should also look into how outcome-based assessment (OBA) could be reasonably supported with any suggested inquiry-based learning approach producing concrete evidence of learning achievements readily demonstrable from the student e-Portfolios.

**My Framework of Educational Practices**

In universities and colleges sailing into the 21<sup>st</sup> century, to achieve excellence in teaching, it is convinced that we first need to understand our students' experiences of learning

(Hartley, Hilsdon, Keenan, Sinfield & Varsity, 2011). To improve our teaching in particular, we need to apply evidence from research into student learning (Light, Cox, & Calkins, 2009). My experience as a teacher in the past 18 or so years shows there are solutions that may work better or worse for each individual teacher, each department, and each group of students. The motivation behind my conceiving this statement is to reflect through reason combined with intuition, on the context of designing suitable technology-enhanced learning experiences as user-participants of a virtual learning environment (VLE), including such components as a course management system, say, MOODLE, some compatible e-Portfolio tools to support learning development, a customizable pedagogy such as inquiry-based learning, and an adaptable course delivery strategy, say, blended learning model, under perhaps, some environmental expectations, say, outcomes-based assessment.

### **Inquiry-Based Learning**

According to Hepworth and Walton (2009), in the educational context, inquiry-based learning (or enquiry-based learning) has been recognized as a powerful tool for learning about a subject domain, and more importantly for learning how to learn, as it helps people to develop their independent learning skills. Hutchings (2007, p.13) asserted the following:

*In inquiry-based learning, the learning is self-directed because it is driven by students' own decisions about appropriate ways in which an issue or scenario might be approached. They bring to bear on the topic any existing knowledge or experience relevant to the issues.*

*No person comes to the table with no knowledge, and the examination and pooling of what is already known allow students to gain confidence, as well as to practice the habit of reflection. They carry out research and investigations into areas that they decide are essential for a proper response to the issue.*

*Thus, they discover how to research by engaging in practical examples. In this way, it may be said that the process of enquiry is in the ownership of the students, so that enquiry-based learning is fundamentally concerned with establishing the context, the space, the environment within which enquiry may best be stimulated and students can take charge of their learning.*

*The process is student-centered, with the onus always on the students to take initiatives, propose routes of enquiry and follow them thoughtfully. By these means, students also acquire experience in a range of intellectual and social capabilities. These include critical thinking, reflection and self-criticism, teamwork, independence, autonomous thinking and information literacy.*

Literature items related to inquiry-based learning include the following:

- Centre for Excellence in Enquiry-Based Learning, The University of Manchester.  
Available at: <http://www.campus.manchester.ac.uk/ceebi/resources/papers/>

- Healey, M. (2009). *Active learning and learning styles: A selected bibliography*. Centre for Active Learning (CeAL), UK. Available at: <http://resources.glos.ac.uk/shareddata/dms/7A5EC57BBCD42A039B4046B28A1917D6.pdf>
- Hepworth, M. & Walton, G. (2009). *Teaching information literacy for inquiry-based learning*. Oxford, England: Chandos Publishing.
- Hutchings, W. (2007). *Enquiry-based learning: definitions and rationale*. Manchester: Centre for Excellence in Enquiry-Based Learning.

### **Outcomes-Based Assessment**

According to Driscoll and Wood (2007), the idea behind the context of outcomes-based assessment is the fundamental question, “What did the student learn?” It is closely related to the growing concerns about the quality of higher education. It is about building shared responsibility for student learning (Conzemius & O’Neill, 2001) through some collaborative analysis of student works (Boud & Falchikov, 2007). It requires that faculty come together to determine what curricular and course outcomes should be. It is important that teachers and students are part of an educational system in which each part affects the behaviors and properties of the whole. When teachers and students come together to contemplate their collective input – something that had previously most been taken for granted, carried out privately by individual instructors, and seen little reason to improve, increasingly more faculty members have realized that much college teaching could have been improved by decades of research on human learning (Suskie, 2009; Maki, 2010). In particular, we are aware today that students learn more if we set high expectations for them; engage them actively in their learning; provide opportunities for them to interact in connection with their work with faculty and with other students; and assess their progress often, providing timely feedback.

Literature items related to outcomes-based assessment include the following:

- Boud, D., & Falchikov, N. (2007). *Rethinking assessment in higher education*. London, UK: Routledge.
- Bresciani, M.J. (2006). *Implementing outcomes-based assessment of student learning*. PPT (PowerPoint Presentation) available at: [http://interwork.sdsu.edu/elip/consultation/presentations/implement\\_assmt\\_stu\\_learning.pdf](http://interwork.sdsu.edu/elip/consultation/presentations/implement_assmt_stu_learning.pdf)
- Carter. M. (2003). A process for establishing outcomes-based assessment plans for writing and speaking in the disciplines. *Language and Learning Across the Disciplines*, 6(1). Available at: <http://wac.colostate.edu/llad/v6n1/carter.pdf>
- Conzemius, A., & O’Neill, J. (2001). *Building shared responsibility for student learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Driscoll, A., & Wood, S. (2007). *Developing outcomes-based assessment for learner-centered education: A faculty introduction*. Sterling, VA: Stylus.
- Gannod, G.G. (2009). *Outcomes-based assessment process*. PPT (PowerPoint Presentation) available at: [http://www.units.muohio.edu/celt/assessment/student\\_success/CSA\\_Powerpoint.pdf](http://www.units.muohio.edu/celt/assessment/student_success/CSA_Powerpoint.pdf)

- Lorenzen, M. (2004). *Using outcome-based education in the planning and teaching of new information technologies*. Available at: <http://www.libraryinstruction.com/obe.html>
- The EASL Resources for outcomes-based assessment. Available at: <http://www.easlinstitute.org/outcomes-based-assessment/resources-for-outcomes-based-assessment/>
- Maki, P. (2010). *Assessing for learning: Building a sustainable commitment across the institution*, 2e. Sterling, VA: Stylus.
- Suskie, L. (2009). *Assessing student learning: A common sense guide*, 2e. San Francisco: Jossey-Bass.

### **Blended Learning Model**

According to Garrison and Vaughan (2008), higher education institutions today, must address changing expectations associated with the quality of the learning experience and the wave of technological innovations. It is increasingly clear that those participants who have grown up with interactive technology are not always comfortable with the information transmission approach of large lectures (Kuh & Associates, 2005). Indeed, students deserve a relevant and engaging learning experience. In this regard, blended learning provides a vision and a roadmap for higher education faculty to understand the possibilities of organically blending face-to-face and online learning for engaging and meaningful learning experiences (Sharpe, Benfield, Roberts, & Francis, 2006). It must provide students with an opportunity to engage their professors and peers in critical and creative reflection and discourse – the conventional ideals of higher education. Blended learning represents the transformation of how we approach teaching and learning. It is a complete rethinking and redesign of the educational environment and learning experience (Garrison, 2003, 2004, & 2006).

The basic principle is that face-to-face oral communication and online written communication are optimally integrated such that the strengths of each are blended into a unique learning experience congruent with the context and intended educational purpose. The key assumptions of a blended learning design include (Garrison & Anderson, 2011; Garrison & Archer, 2007): thoughtfully integrating face-to-face and online learning; fundamentally rethinking the course design to optimize student engagement; and restructuring and replacing traditional class contact hours. This opens a wide range of possibilities for redesign that goes beyond enhancing the traditional classroom lecture; however, it must be based on a sound understanding of higher-order learning environments, communication characteristics, requirements of various disciplines, and related resources.

Literature items related to the blended learning model include the following:

- Benfield, G. & Roberts, G. (2008). *Blended e-Learning in HE*. Oxford Centre for Staff and Learning Development. (Pdf PPT). Available at: [https://mw.brookes.ac.uk/download/attachments/6160945/Blended\\_eLearning+%28handouts%29.pdf?version=1](https://mw.brookes.ac.uk/download/attachments/6160945/Blended_eLearning+%28handouts%29.pdf?version=1)
- Garrison, D. (2003). Cognitive presence for effective asynchronous online learning: The role of reflective inquiry, self-direction and meta-cognition. In J.

- Bourne & J.C. Moore (Eds.), *Elements of quality online education: Practice and direction* (pp. 29-38). Volume 4 in the Sloan C Series, Needham, MA: The Sloan Consortium.
- Garrison, D. (2004). Transformative leadership and e-learning. In K. Mattheos & T. Carey (Eds.), *Advances and challenges in eLearning at Canadian research universities* (pp.46-54). *CHERD Occasional Papers in Higher Education*, 12, University of Manitoba.
  - Garrison, D. (2006). *Online community of inquiry review: Understanding social, cognitive and teaching presence*. Invited paper presented to the Sloan Consortium Asynchronous Learning Network Invitational Workshop, Baltimore, MD, August.
  - Garrison, D., & Anderson, T. (2011). *E-Learning in the 21<sup>st</sup> century: A framework for research and practice*, 2e. London, UK: Routledge/Falmer.
  - Garrison, D., & Archer, W. (2007). A community of inquiry framework for online learning. In M. Moore (ed.), *Handbook of distance education*. New York, NY: Erlbaum.
  - Garrison, D., & Vaughan, N. (2008). *Blended learning in higher education: Frameworks, principles, and guidelines*. San Francisco, CA: Jossey-Bass.
  - Kuh, G.D., Kinzie, J., Schuh, J.H., Whitt, E.J., & Associates. (2005). *Student success in college: Creating conditions that matter*. San Francisco: Jossey-Bass.
  - Littlejohn, A., & Pegler, Chris (2007). *Preparing for blended e-Learning*. New York: Routledge
  - Sharpe, R., Benfield, G., Roberts, G. & Francis, R. (2006). The undergraduate experience of blended e-learning: A review of UK literature and practice. *Higher Education Academy*. Available at: [http://hca.ltsn.ac.uk/assets/documents/research/literature\\_reviews/blended\\_elearning\\_exec\\_summary\\_1.pdf](http://hca.ltsn.ac.uk/assets/documents/research/literature_reviews/blended_elearning_exec_summary_1.pdf)

### **Learning e-Portfolios**

The use of portfolios for teaching and documenting student work has been around for a long time in a number of fields (Stefani, Mason, & Pegler, 2007), including portfolios in both composition and creative writing, in the visual arts, and in architecture and interior design. In the context of college education, learning portfolios are those assembled by students for individual courses. They document and reflect upon the ways in which the students have met the outcomes for particular courses. Instructor's endorsement is often required to authenticate the course learning portfolios from students. Program learning portfolios are developed by students to document the work they have completed, the skills they have learned, and the outcomes they have accomplished in an academic department or program. The mentor or appraiser could add comments as feedback. It could be a requirement for graduation. Besides, students might use a selection from their program learning portfolios to show to prospective employers, as important steps of career planning (Lorenzo & Ittelson, 2005).

Despite being effective as mechanisms for showcasing student work, the traditional paper-based portfolios were not easily shared among audiences geographically

distributed, and were not easily modified for different purposes and for diverse audiences. With the advent of the Internet starting in the 1990s, we have witnessed the opportunity to experiment with the concept of electronic learning portfolios (e-Portfolios) (Penny Light, Chen, & Ittelson, 2012; Jafari & Kaufman, 2006; Cambridge, 2001). Still, whatever the primary focus of engagement with students, the use of e-Portfolios inevitably adds a strong online element to the teaching and learning activities.

In particular, institutions of higher education need to provide electronic support and services; teachers need access and skills to integrate the e-Portfolio application into their overall course design, and students need a wide range of electronic abilities in order to develop their e-Portfolios. The underlying pedagogy of e-Portfolio use is considered an important link with e-Learning, too. It is believed as mentioned earlier, that the use of inquiry-based learning should prove promising in the final analysis.

Literature items related to the e-Portfolio model include the following:

- Cambridge, B.L. (2001). *Electronic portfolios: Emerging practices in student, faculty, and institutional learning*. Sterling, VA: Stylus.
- Cambridge, D. (2010). *Eportfolios for lifelong learning and assessment*. San Francisco: Jossey-Bass.
- Cambridge, D., Cambridge B., & Yancey, K. (2009). *Electronic portfolios 2.0: Emergent research on implementation and impact*. Sterling, VA: Stylus.
- Chen, H.L., & Penny Light, T. (2010). *Electronic portfolios and student success: Effectiveness, efficiency, and learning*. Washington, DC: Association of American Colleges and Universities.
- Jafari, A. & Kaufman, C. (2006). *Handbook of research on ePortfolios*. Hershey: Idea Group Reference.
- Lorenzo, G., & Ittelson, J. (2005). An overview of institutional e-portfolios. In D. Oblinger (Ed.), *Educause learning initiative*. Available online at: <http://www.educause.edu/ir/library/pdf/ELI3002.pdf> (last accessed May 10, 2008)
- Penny Light, T., Chen, H., & Ittelson, J. (2012). *Documenting learning with ePortfolios: A guide for college instructors*. San Francisco: Jossey-Bass.
- Stefani, L., Mason R., & Pegler, C. (2007). *The educational potential of e-portfolios: Supporting personal development and reflective learning*. New York: Routledge
- Zubizarreta, J. (2009). *The learning portfolio: Reflective practice for improving student learning*, 2e. San Francisco: Jossey-Bass.

## My Observations and Interpretations

College instructors are rarely taught to teach. Meeting Ph.D. requirements has been counted as sufficient qualification to teach others, and it is true that many instructors develop excellent skills on the job without formal training or consultation. Yet, the question remains: Why strive for excellence in the classroom? My answer is simple, but intrinsic: It is a moral calling for me to be an effective teacher, and such a calling requires constant efforts to assiduously go beyond minimal expectations. Undoubtedly, the

doctorate carries with it both a sense of intellectual mastery and of moral responsibility, whose integration helps prepare for the many roles of the scholar - discovery and synthesis, teaching and service.

The workplace of the 21st century requires professionals who not only have an extensive stock of knowledge, but who also know how to keep the knowledge up-to-date, who apply it to solve problems, and who function as part of a team. Those of us who teach undergraduates in higher educational institutions are obligated to rethink how we teach and what our students need to learn in order to prepare them for this challenging time. Yet, with few exceptions, we faculty often teach as we were taught. And for most of us, that experience revolved around lectures, which are usually content-driven, emphasizing abstract concepts over concrete examples and applications. Assessment techniques focus on recall of information and facts, and rarely challenge students to perform at higher cognitive levels of understanding. This didactic instruction reinforces in students a naive view of learning in which the teacher is responsible for delivering content and the students are the passive receivers of knowledge. Indeed, lecturing, though still an efficient means of educational delivery, does little to foster the development of process skills to complement content knowledge. In this light, I personally identify with John Dewey's observation that true learning should be based on discovery (inquiry) guided by mentoring rather than the transmission of knowledge.

## **My Goals for Student Learning**

In June of 1994 (while I was just two-year old in my service at UM), a Wingspread Conference was held in Denver, Colorado, USA, to discuss the quality in undergraduate education in the States (Wingspread, 1994). The discussion that took place was based on the assertion that substantial improvement in American undergraduate education is needed to prepare students to function successfully in the global and their home environments. The Conference developed the following list of important characteristics of quality performance expected of college graduates:

1. Higher-level skills in communication, computation, technological literacy, and information retrieval to enable individuals to gain and apply new knowledge and skills as needed;
2. The ability to arrive at informed judgments - that is, to effectively define problems, gather and evaluate information related to those problems, and develop solutions;
3. The ability to function in a global community through the possession of a range of attitudes and dispositions including flexibility and adaptability, ease with diversity, motivation and persistence (say, being a self-starter), ethical and civil behavior, creativity and resourcefulness, and the ability to work with others, especially in team settings;
4. Technical competence in a given field;
5. Demonstrated ability to deploy all of the previous characteristics to address specific problems in complex, real-world settings, in which the development of workable solutions is required.

## **My Experience of College Education**

No doubt, what worked in the classroom a decade or two ago (while I was still being educated in college in the US), will no longer suffice to develop the full battery of skills and abilities desired in such a contemporary university graduate (refer to the attributes above). To enable college students to learn with their own initiatives, it has been observed (Huba & Freed, 2000) that there is a growing tendency away from a traditional transmission-based pedagogy in higher education, towards a pedagogy that can broadly be characterized as constructivist. By transmission pedagogy, I mean teaching based on an assumption that student receive information from the teacher and slot it straight into an empty place in their knowledge base, or at best, work on it later to make it their own. By constructivist pedagogy, I mean an approach to learning through a variety of knowledge building processes, and that teaching should encourage students to work actively towards understanding within a framework of personal responsibility and institutional freedom. Within the culture of transmission teaching, what constitutes good learning has largely been based on success in examinations designed to test the quantity and the quality of what individual students have learned, in the sense of giving back, in an appropriate form, that which the teachers taught and the textbooks told. The constructivist shift brings new dimensions to the notion of good learning, such as being able to find information and knowledge by oneself; of being able to look critically at what one finds; of being able to question one's teachers; of being able to collaborate with colleagues (fellow students); and of being able to discuss what one knows with one's peers and with the public. In this regard, as the need to examine a student's work as a whole is mandated, such as how best to measure responsibly what the student learns in college, our traditional mode of educational delivery becomes increasingly problematic (currently being so much revealed by the Collegiate Learning Assessment movement in the US), and the notion of good teaching shifts away from the role of presenter and towards the much more complex role of guide and coach, as so much exemplified in the current trend of outcomes-based teaching and learning (OBTL) as well as outcomes-based assessment (OBA) (Driscoll & Wood, 2007).

### **My Confession as a Reflective College Teacher**

It is my confession that the conventional approach to education at UM remains the instructivist (transmission-based) mode today, in which knowledge is perceived to flow from experts to novices. This transmission view of learning assumes that the process of good teaching is one of simplification of the truth in order to reduce student confusion. Yet, such simplification could deny students the opportunity to apply their learning to dynamic situations. We often question the transferability of the instructivist learning and ask how much of that which is assigned to academic learning ever gets applied to actual scenarios, when there is such a rapid surge in knowledge commonly associated with the advent of the Internet era. This is a transference problem. Empirically, the content product of learning is assuming a less important role relative to the process of learning as the life of information content shortens and the need for continual learning increases. It is increasingly accepted today that learning could be viewed as a constructive process occurring during one's participation in and contribution to the practices of the community of learners. This is supported by UM's 4-in-1 model of education, in which learning in communities through our residential college system is a clear demonstration of the belief. Indeed, teaching and learning in higher education is shifting from the cognitive focus on

knowledge structures presumed in the mind of the individual learner, to a constructivist focus on the learner as an active participant in a social context. Our classroom culture is also being transformed from the obsession with knowledge reproduction, to the enrichment with electronic learning platforms (such as UMMoodle, or later Sakai Open Academic Environment) that are meant to facilitate the mediation of knowledge building and social exchanges among peers as participants in the discourse communities. Such communities of learning (physical or virtual) open opportunities for learners to interact with multiple perspectives, which challenge their existing knowledge constructions and impose cognitive conflicts, requiring negotiations and often teacher's or mentor's continual interventions. Unquestionably, it takes a certain amount of independence and determination to change the way one teaches. It also takes time (presumably reserved for our research - scholarship of discovery) and involves risks (such as undesirable student ratings among a community of students so accustomed to the transmission mode of teaching and learning). So, where do instructors acquire the commitment (courage to teach; dare to try and to risk) to get started with this change?

### **My Leap of Faith in Effective Teaching**

In the fall of 1998 (while I was just six-year old in my service at UM), I started exploring the pedagogy of problem-based learning (PBL) in my teaching the junior core course (in the old 4-year undergraduate Software Engineering curriculum) *SFTW300 Software Psychology*, designed to introduce to students the human behavior in software development. It was and has been quite an impressive learning experience for my students and myself, though we had/have had a number of obstacles to overcome, including the counseling of students in groups (rigorous group work). I still remember the emphatic comment of one student yelling, "It is never good to work in a group with no confidants of my own!" The major hurdle is to encourage students to keep on their research-analysis-implementation schedule (amidst their tight schedule of classes - six to seven courses per semester, taken for granted at UM-FST, instead of being exceptional for high-performing students, as in the US), including such tasks as reading articles before or in time for class discussion (or more precisely, conducting group-based discourse, small-group discussion), and learning how to critique on other groups' ideas in order to help improve the group's work for the next round of discourse. The academic efforts exerted over the years, have led to a number of important publications publicizing to the world that we at the University of Macau (UM), are also partakers of quality undergraduate computer science education, though ours was misnamed Software Engineering from 1989 until this year when our official Computer Science program has been launched in the fall of 2011. As an aside, the essence of PBL can be summarized by the fact that it addresses, besides the necessary course content knowledge, directly many of the recommended and desirable outcomes of an undergraduate education, with special attention to the ability to do the following for both students and teacher concerned:

1. Think critically and be able to analyze and solve complex, real-world problems;
2. Find, evaluate, and use appropriate learning resources;
3. Work cooperatively in teams and/or small groups;
4. Demonstrate versatile and effective communication skills, both verbal and written;

5. Use content knowledge and intellectual skills acquired at the university to become continual learners.

## Selected Publications

- Vat, K.H. (2000), "Training E-Commerce Support Personnel for Enterprises through Action Learning," presented and published in Proceedings of the 2000 ACM SIGCPR Conference, Apr. 6-8, Chicago, Illinois, USA, pp.39-43.
- Vat, K.H. (2000), "Teaching Software Psychology: Expanding the Perspective," presented and published in Proceedings of the Thirty-first SIGCSE Technical Symposium on Computer Science Education, Mar. 8-12, Austin, Texas, USA, pp.392-396.
- Vat, K.H. (2001), "Teaching HCI with Scenario-Based Design: The Constructivist's Synthesis," presented and published in Proceedings of the Sixth Annual ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE2001), Canterbury, U.K., Jun. 25-27, pp. 9-12.
- Vat, K.H. (2001), "Addressing IT/IS Personnel Shortfall: Some PBL Students' Findings and Recommendations," presented and published in Proceedings of the Fourth Annual Conference of the Southern Association for Information Systems (SAIS2001), Mar. 2-3, Savannah, Georgia, USA, pp. 52-60.
- Vat, K.H. (2004), "Toward a Learning Organization Model for Student Empowerment: A Teacher-Designer's Experience as a Coach by the Side," presented and published in the Proceedings of the 2004 IADIS International Conference on Cognition and Exploratory Learning in Digital Age (CELDA2004), Dec. 15-17, Lisbon, Portugal, pp.131-140.
- Vat, K.H. (2006), "Integrating Soft Systems Methodology into the Teaching of Human-Computer Interaction: A Constructivist Design Based on Problem-Based Learning," presented and published in the CD-Proceedings of the Society for Information Technology and Teacher Education International Conference (SITE2006), Mar. 20-24, Orlando, Florida, USA.
- Vat, K.H. (2006), "Nurturing Self-Directed Work Teams in the Education of Information Systems Professionals," presented and published in the CD-Proceedings of the Ninth Annual Conference of the Southern Association for Information Systems (SAIS2006), Mar. 11-12, Jacksonville, Florida, USA (<http://saisaisnet.org/2006/Vat-SAIS2006-paper.pdf>).
- Vat, K.H. (2006), "Teaching a Collaborative Model of IS Development through Problem-Based Learning," in Information Systems Education Journal (ISSN: 1545-679x), Volume 4, Number 102, October (<http://isedj.org/4/102/>).
- Vat, K.H. (2006), "Integrating Industrial Practices in Software Development through Scenario-Based Design of PBL Activities: A Pedagogical Re-Organization Perspective," in Journal of Issues in Informing Science and Information Technology (ISSN: 1547-5859 CD Version), Volume 3, June, pp. 687-708 (Choose Volume 3 from <http://iisit.org/> or click direct from <http://informingscience.org/proceedings/InSITE2006/IISITVat229.pdf>).
- Vat, K.H. (2009), "Virtual Organizing Professional Learning Communities through a Servant-Leader Model of Appreciative Coaching," in Y. Inoue (Ed.), Cases on Online and Blended Learning Technologies in Higher Education: Concepts and Practices

(ISBN 978-1-60566-880-2). Hershey, PA, USA: Information Science Reference (IGI Global, Inc.) (<http://www.igi-global.com/reference/details.asp?ID=34829>), pp.183-206.

## My Personal Growth Plan

It is my belief that including a section on personal growth as a university teacher is also important in a statement of teaching philosophy. The reflective component can illustrate how I have grown in teaching over the years, what challenges exist at the present, and what long-term goals are projected. Firstly, I am convinced that it is essential for teachers to provide a framework to guide students' learning process, and this framework must comprise, at least, the following three main ideas of empowerment I found to be extremely important to live up to:

- a) *Enable students to determine what they need to learn through questioning and goal setting.* It is my belief that students should work to identify their knowledge and skill deficits, and to develop strategies in the form of personal learning goals for meeting those deficits. Also, they should learn to relate what they know to what they do not know and ask questions to guide their quest for new knowledge. The emphasis is to foster a sense of student ownership in the learning process. If teachers, say, through the PBL approach, can guide the students in the identification of what they already know and what they need to learn, then knowledge gaps and mistakes can be viewed in a positive way such as another opportunity to learn. And students can assume more responsibility in addressing their own learning needs during any instructional unit.
- b) *Enable students to manage their own learning activities.* It is my belief that students should be enabled to develop their learning plans, which should describe priorities, instructional tactics, resources, deadlines, roles in collaborative learning situations, and proposed learning outcomes, including presentation and dissemination of new knowledge and skills, if applicable. Traditionally, these instructional events are arranged by teachers to be obeyed by students throughout a semester or school year, in order to accomplish a specified set of pre-determined objectives. Yet, in that case, it is not advantageous for students to learn to take the initiative. To manage their own learning activities, students must be guided and supported by the teacher, slowly taking on more and more responsibility of their own learning.
- c) *Enable students to contribute to each other's learning through collaborative activities.* It is my belief that students should be motivated and supported in discussing and sharing information. Particularly, we should enable students to become co-builders of the course resources through evaluating and refining the work their peers contribute to the class. Collaborative learning seems appealing to achieve that purpose; however, it involves not just creating a group and then dividing up the work. Students must be educated to recognize what they are trying to learn in group-work, value it, and wish to share that value with others. Teachers can provide this sense of accountability by structuring the group work to include both individual and group assessments, as in the PBL (problem-based learning) style of collaboration.

Secondly, it is my lifelong learning that effective teaching must be understood and practiced in the following context of higher educational challenges (courtesy of Queen's University, Ontario, Canada):

1. Effective teaching is a scholarly activity which is integral to the duties of all faculty members, and to which they are expected to devote substantial proportions of their professional time. Effective teachers place high value on the teaching enterprise and the subject taught, manifest knowledge, interest and enthusiasm, and provide appropriate intellectual challenges to students. By inspiring and encouraging students, effective teachers draw students into the world of the disciplines, the university, and the habit for inquiry that guides the lifelong search for understanding.
2. Effective teachers have excellent communication skills, which include: a) clarity in the organization and presentation of ideas; b) consistency and clarity on expected standards of student work; c) timely, appropriate, and helpful assessment of student performance; d) constructive feedback to students; and e) opportunities for interaction with individual students and among students.
3. Effective teaching employs appropriate curriculum design delivery, and attends to the development, evaluation, and revision of curricula. Effective teachers employ appropriate course design and instructional methods, and are consistent in their attention to the development, evaluation and revision of courses. Materials and teaching strategies should: a) be academically challenging; b) encourage critical thought and intellectual exchange; c) take account of recent developments in scholarship; d) reflect the diversity of student experience and issues, and the breadth and depth of their knowledge; e) be well organized and coherent; f) be stimulating, responsive, flexible and open to modification in keeping with students' needs; and g) take account of recent development in the delivery of curriculum, such as innovative instructional technologies and alternative teaching strategies.
4. Effective teachers recognize and engage with the diversity of student experience and intellectual perspectives. Teaching is a highly complex interplay of relationships between teachers and students within which an effective teacher reveals and encourages respect for differences among students and seeks to draw on that diversity in a way that builds a constructive experience of learning for all. Effective teachers are therefore committed to the equitable treatment of all students and to understanding and removing barriers to learning that may have impeded the academic progress of those who are non-traditional students.
5. Effective teachers promote both independent and collaborative learning on the part of students by fostering the talents, skills, abilities, and most important, the desire of students to take responsibility for continued learning.
6. Effective teachers are reflective, self-critical and flexible. They consistently seek to learn from their students, from their own teaching, and from the teaching of others, and, in response, are willing to modify their instructional approaches. The committed

teacher also serves as a role model and mentor to colleagues. What is effective teaching may vary with particular disciplines as teachers seek to address a wide variety of students, and approach diverse topics in diverse ways at various levels of expertise. Effective teaching and learning occurs through intensive interaction of teachers and students in a variety of places, both inside and outside the classroom, and as changing technologies offer new opportunities for expanding and diversifying the contexts of learning.

Thirdly, it is my commitment to teach effectively so as to facilitate student learning, and I am convinced that a teacher's commitment to develop and to maintain a *Teaching Dossier* (or better named *Teaching Portfolio*) to keep track of one's teaching performance must be demonstrated, with the following possible items for ongoing perusal:

A) ***The Products of Good Teaching***

- Students' scores on teacher-made or standardized tests, possibly before and after a course has been taken as evidence of learning;
- Student laboratory workbooks and other kinds of workbooks or logs;
- Student essays, creative work, and project or field-work reports;
- Publications by students on course-related work;
- A record of students who select and succeed in advanced courses of study in the field;
- A record of students who elect another course with the same professor;
- Evidence of effective supervision of Honors, Master's, or Ph.D. theses;
- Setting up or running a successful internship program;
- Documentary evidence of the effect of courses on student career choice;
- Documentary evidence of help given by the professor to students in securing employment;
- Evidence of help given to colleagues on teaching improvement.

B) **Materials from Teacher**

Descriptive materials on current and recent teaching responsibilities and practices

- List of course titles and numbers, unit values or credits, enrolments with brief elaboration;
- List of course materials prepared for students;
- Information of professor's availability to students;
- Report on identification of student difficulties and encouragement of student participation in courses or programs;
- Description of how films, computers or other non-print materials were used in teaching;
- Steps taken to emphasize the interrelatedness and relevance of different kinds of learning.

Descriptions of steps taken to evaluate and improve one's teaching

- Maintaining a record of the changes resulting from self-evaluation;
- Reading journals on improving teaching and attempting to implement acquired ideas;
- Reviewing new teaching materials for possible application;
- Exchanging course materials with a colleague from another institution;
- Conducting research on one's own teaching or course;
- Becoming involved in an association or society concerned with the improvement of teaching and learning;
- Attempting instructional innovations and evaluating their effectiveness;
- Using general support services such as the Education Resources Information Centre (ERIC) in improving one's teaching;
- Participating in seminars, workshops and professional meetings intended to improve teaching;
- Participating in course or curriculum development;
- Pursuing a line of research that contributes directly to teaching;
- Preparing textbook or other instructional materials;
- Editing or contributing to a professional journal on teaching one's subject.

### C) Information from Others

#### Students

- Student course and teaching evaluation data which suggest improvements or produce an overall rating of effectiveness or satisfaction;
- Written comments from a student committee to evaluate courses and provide feedback;
- Unstructured (and possibly unsolicited) written evaluations by students, including written comments on exams and letters received after a course has been completed;
- Documented reports of satisfaction with out-of-class contacts;
- Interview data collected from students after completion of a course;
- Honors received from students, such as being elected "teacher of the year".

#### Colleagues

- Statements from colleagues who have observed teaching either as members of a teaching team or as independent observers of a particular course, or who teach other sections of the same course;
- Written comments from those who teach courses for which a particular course is a prerequisite;
- Evaluation of contributions to course development and improvement;
- Statements from colleagues from other institutions on such matters as how well students have been prepared for graduate studies;

- Honors or recognition such as distinguished teacher award or election to a committee on teaching;
- Requests for advice or acknowledgement of advice received by a committee on teaching or similar body.

#### **Other Sources**

- Statements about teaching achievements from administrators at one's own institution;
- Alumni ratings for other graduate feedback;
- Comments from parents of students;
- Reports from employers of students (e.g., in a work-study or cooperative program);
- Invitations to teach for outside agencies;
- Invitations to contribute to the teaching literature;
- Other kinds of invitations based on one's reputation as a teacher (for example, a media interview on a successful teaching innovation).

### **My Perceived Significance of a Sustainable Teaching Commitment**

Among the perceived contributions of a sustainable teaching commitment include:

- Specific organizational learning to be accrued and shared among institutions of higher education, especially in Macau, in the context of documenting student learning particularly through the use of e-Portfolios;
- Pinpointed case studies of how student learning can be produced and enhanced through different pedagogical and technological designs that are enacted in a blended learning environment, characterized by the use of course or learning management systems;
- Extended understanding and interpretation of the nature of individual and collective participation in inquiry-based learning directed at growth and development in academic (teaching and learning) endeavors in pursuit of excellence (personal or collaborative knowledge creation);
- Close examination of the contextual dynamics (social, cultural, and political analysis) within which technology-enhanced learning in the specific institution of higher education takes place, and how best to respond to and improve the situation of concerns (e.g., culture and learning, educational reform, policy re-orientation).

Finally, but not the least, it is my goal to be able to see to the development and realization of the following system of relevance and excellence:

**A university-own system,  
operated by skilled professionals,  
which, under the learning-centered initiative of college education,  
develops and maintains a virtual space of learning,  
called *UM REALSpace*, for students, teachers, and administrators,**

**developed through collaborative and participatory approach,  
in order to contribute to meaningful student learning  
in relation to curriculum/learning development, and  
the learning-teaching-assessing (LTA) processes  
of college education**

***REALSpace – Rich Environment for Active Learning Space***

## **References**

- Benfield, G. & Roberts, G. (2008). *Blended e-Learning in HE*. Oxford Centre for Staff and Learning Development. (PDF PPT). Available at: [https://mw.brookes.ac.uk/download/attachments/6160945/Blended\\_eLearning%28handouts%29.pdf?version=1](https://mw.brookes.ac.uk/download/attachments/6160945/Blended_eLearning%28handouts%29.pdf?version=1)
- Boud, D., & Falchikov, N. (2007). *Rethinking assessment in higher education*. London, UK: Routledge.
- Bresciani, M.J. (2006). *Implementing outcomes-based assessment of student learning*. PPT (PowerPoint Presentation) available at: [http://interwork.sdsu.edu/elip/consultation/presentations/implement\\_assmt\\_stu\\_learning.pdf](http://interwork.sdsu.edu/elip/consultation/presentations/implement_assmt_stu_learning.pdf)
- Cambridge, B.L. (2001). *Electronic portfolios: Emerging practices in student, faculty, and institutional learning*. Sterling, VA: Stylus.
- Cambridge, D. (2010). *Eportfolios for lifelong learning and assessment*. San Francisco: Jossey-Bass.
- Cambridge, D., Cambridge B., & Yancey, K. (2009). *Electronic portfolios 2.0: Emergent research on implementation and impact*. Sterling, VA: Stylus.
- Carter. M. (2003). A process for establishing outcomes-based assessment plans for writing and speaking in the disciplines. *Language and Learning Across the Disciplines*, 6(1). Available at: <http://wac.colostate.edu/llad/v6n1/carter.pdf>
- Chen, H.L., & Penny Light, T. (2010). *Electronic portfolios and student success: Effectiveness, efficiency, and learning*. Washington, DC: Association of American Colleges and Universities.
- Conzemius, A., & O'Neill, J. (2001). *Building shared responsibility for student learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Driscoll, A., & Wood, S. (2007). *Developing outcomes-based assessment for learner-centered education: A faculty introduction*. Sterling, VA: Stylus.
- Gannod, G.G. (2009). *Outcomes-based assessment process*. PPT (PowerPoint Presentation) available at: [http://www.units.muohio.edu/celt/assessment/student\\_success/CSA\\_Powerpoint.pdf](http://www.units.muohio.edu/celt/assessment/student_success/CSA_Powerpoint.pdf).
- Garrison, D. (2003). Cognitive presence for effective asynchronous online learning: The role of reflective inquiry, self-direction and meta-cognition. In J. Bourne & J.C. Moore (Eds.), *Elements of quality online education: Practice and direction* (pp. 29-38). Volume 4 in the Sloan C Series, Needham, MA: The Sloan Consortium.
- Garrison, D. (2004). Transformative leadership and e-learning. In K. Mattheos & T. Carey (Eds.), *Advances and challenges in eLearning at Canadian research universities* (pp.46-54). *CHERD Occasional Papers in Higher Education*, 12, University of Manitoba.

- Garrison, D. (2006). *Online community of inquiry review: Understanding social, cognitive and teaching presence*. Invited paper presented to the Sloan Consortium Asynchronous Learning Network Invitational Workshop, Baltimore, MD, August.
- Garrison, D., & Anderson, T. (2011). *E-Learning in the 21<sup>st</sup> century: A framework for research and practice, 2e*. London, UK: Routledge/Falmer.
- Garrison, D., & Archer, W. (2007). A community of inquiry framework for online learning. In M. Moore (ed.), *Handbook of distance education*. New York, NY: Erlbaum.
- Garrison, D., & Vaughan, N. (2008). *Blended learning in higher education: Frameworks, principles, and guidelines*. San Francisco, CA: Jossey-Bass.
- Hartley, P., Hilsdon, J., Keenan, C., Sinfield, S., & Verity, M. (2011). *Universities into the 21<sup>st</sup> century: Learning development in higher education*. London, England: Palgrave (Macmillan).
- Healey, M. (2009). *Active learning and learning styles: A selected bibliography*. Centre for Active Learning (CeAL), UK. Available at: <http://resources.glos.ac.uk/shareddata/dms/7A5EC57BBCD42A039B4046B28A1917D6.pdf>
- Hepworth, M. & Walton, G. (2009). *Teaching information literacy for inquiry-based learning*. Oxford, England: Chandos Publishing.
- Huba, M.E., & Freed, J.E. (2000). *Learner-centered assessment on college campuses: Shifting the focus from teaching to learning*. Boston: Allyn and Bacon.
- Hutchings, W. (2007). *Enquiry-based learning: definitions and rationale*. Manchester: Centre for Excellence in Enquiry-Based Learning.
- Jafari, A. & Kaufman, C. (2006). *Handbook of research on ePortfolios*. Hershey: Idea Group Reference.
- Kuh, G.D., Kinzie, J., Schuh, J.H., Whitt, E.J., & Associates. (2005). *Student success in college: Creating conditions that matter*. San Francisco: Jossey-Bass.
- Light, G., Cox, R., & Calkins, S. (2009). *Learning and teaching in higher education: The reflective professional, 2e*. London, England: Sage.
- Littlejohn, A., & Pegler, Chris (2007). *Preparing for blended e-Learning*. New York: Routledge.
- Lorenzen, M. (2004). *Using outcome-based education in the planning and teaching of new information technologies*. Available at: <http://www.libraryinstruction.com/ohe.html>.
- Lorenzo, G., & Ittelson, J. (2005). An overview of institutional e-portfolios. In D. Oblinger (Ed.), *Educause learning initiative*. Available online at: <http://www.educause.edu/ir/library/pdf/ELI3002.pdf> (last accessed May 10, 2008)
- Maki, P. (2010). *Assessing for learning: Building a sustainable commitment across the institution, 2e*. Sterling, VA: Stylus.
- Penny Light, T., Chen, H., & Ittelson, J. (2012). *Documenting learning with ePortfolios: A guide for college instructors*. San Francisco: Jossey-Bass.
- Sharpe, R., Benfield, G., Roberts, G. & Francis, R. (2006). The undergraduate experience of blended e-learning: A review of UK literature and practice. *Higher Education Academy*. Available at: [http://hca.ltsn.ac.uk/assets/documents/research/literature\\_reviews/blended\\_elearning\\_exec\\_summary\\_1.pdf](http://hca.ltsn.ac.uk/assets/documents/research/literature_reviews/blended_elearning_exec_summary_1.pdf)
- Stefani, L., Mason R., & Pegler, C. (2007). *The educational potential of e-portfolios: Supporting personal development and reflective learning*. New York: Routledge.

- Suskie, L. (2009). *Assessing student learning: A common sense guide*, 2e. San Francisco: Jossey-Bass.
- Wingspread Conference. (1994). *Quality Assurance in Undergraduate Education: What the Public Expects*. Denver, CO: Education Commission of the States
- Zubizarreta, J. (2009). *The learning portfolio: Reflective practice for improving student learning*, 2e. San Francisco: Jossey-Bass.