23 Feb 2009

ACCEPTANCE OF SUMMARY PAPER
2nd International PBL Symposium
10 – 12 June 2009, Singapore

Dear Dr Megan Kek,

I am pleased to inform that your summary paper entitled, “TO LEARN DEEPLY OR NOT TO LEARN DEEPLY: EXPLORING FACTORS THAT INFLUENCE LEARNING APPROACHES AND SELF-DIRECTED LEARNING IN A PBL CONTEXT AT A MALAYSIAN PRIVATE UNIVERSITY” has been accepted for presentation at the 2nd International PBL symposium to be held in Singapore from 10 – 12 June 2009.

The comments from the reviewers are attached for your reference. Please advise if you will be making any changes in view of the reviewers comments by 27 Feb 2009. If we do not hear from you by then, we will proceed with using the current version.

We intend to publish all summary papers into a proceedings that will be distributed at the symposium. We are however, only publishing papers of presenters whose registration fees have reached us by end 15 April 2009. Kindly ensure that your registration fees reach us by then so that we can confirm your registration at the symposium.

Do log in with your login id and password onto the MySymposium Portal to indicate mode of payment and to make payment of fees. Details on modes of payment is available on the web at: http://www.rp.sg/symposium/2009/registrationform.asp.

We would like to encourage you to make arrangements for travel and accommodation early. To enjoy special accommodation rates for the official symposium hotels, please visit http://www.rp.sg/symposium/2009/accommodation.asp.

Please visit the symposium website at www.rp.sg/symposium for updates. We look forward to meeting you at the symposium.
With warm wishes

Rita Roop
Organising Committee
2nd International PBL Symposium
www.rp.sg/symposium


Republic Polytechnic, the first Institute of Higher Learning to fully adopt the Problem-Based Learning approach in Singapore, continues to strive towards best practices and maintain excellence in service standards with the following certifications: Singapore Innovation Class (SIC), Singapore Quality Class (SQC), People Developer Standards and QEHS (ISO 9001, 14001 and OHSAS 18001)

CONFIDENTIALITY CAUTION: This message is intended only for the use of the individual or entity to whom it is addressed and contains information that is privileged and confidential. If you, the reader of this message, are not the intended recipient, you should not disseminate, distribute or copy this communication. If you have received this communication in error, please notify us immediately by return email and delete the original message. Thank you.

This email (including any attached files) is confidential and is for the intended recipient(s) only. If you received this email by mistake, please, as a courtesy, tell the sender, then delete this email.

The views and opinions are the originator’s and do not necessarily reflect those of the University of Southern Queensland. Although all reasonable precautions were taken to ensure that this email contained no viruses at the time it was sent we accept no liability for any losses arising from its receipt.

The University of Southern Queensland is a registered provider of education with the Australian Government (CRICOS Institution Code No’s. QLD 00244B / NSW 02225M)


Republic Polytechnic, the first Institute of Higher Learning to fully adopt the Problem-Based Learning approach in Singapore, continues to strive towards best practices and maintain excellence in service standards with the following certifications: Singapore Innovation Class (SIC), Singapore Quality Class (SQC), People Developer Standards and QEHS (ISO 9001, 14001 and OHSAS 18001)

CONFIDENTIALITY CAUTION: This message is intended only for the use of the individual or entity to whom it is addressed and contains information that is privileged and confidential. If you, the reader of this message, are not the intended recipient, you should not disseminate, distribute or copy this communication. If you have received this communication in error, please notify us immediately by return email and delete the original message. Thank you.
2nd International PBL Symposium
10 – 12 June 2009
Republic Polytechnic Singapore
Review of summary papers

Paper title/Paper code: MK012
PAPER STATUS: ACCEPT

TO LEARN DEEPLY OR NOT TO LEARN DEEPLY: EXPLORING FACTORS THAT INFLUENCE LEARNING APPROACHES AND SELF-DIRECTED LEARNING IN A PBL CONTEXT AT A MALAYSIAN PRIVATE UNIVERSITY

Comments from reviewer 1:

A very interesting study that is helpful in enabling understanding of the complexity in learning via profiling the deep and surface learners in terms of influences.

Not clear, however, from the summary of findings the relationship between deep/surface learning or learners’ profiles with Self directed learning. Is self-directed learning the outcome that is being referred to? It is also necessary to help the reader make connections between the findings and the implications, as the latter now appears to stand alone.

How many items were in the survey for each student and teacher?

I’m wondering if the author has specific intentions for entitling the paper as it is, for “to learning deeply or not.” reflects choice, while “factors that influence” indicates observations as a result of direct or indirect choices on the part of the learners.

Comments from reviewer 2:
The paper is well written and well structured and should provoke worthwhile discussion amongst symposium participants.
What Are We Learning About Learning?

2nd International Problem-based Learning Symposium 2009

10 – 12 June 2009

Republic Polytechnic, Singapore
Centre for Educational Development
Republic Polytechnic

9 Woodlands Avenue 9
Singapore 738964
Republic of Singapore

Tel: (+65) 6510 3000
Fax: (+65) 6415 1310

ISBN 978-981-08-3291-9

Centre for Educational Development
The Centre for Educational Development (CED) at the Republic Polytechnic (RP) plays a supportive role in ensuring staff are equipped with the most relevant and effective teaching practices so that students can maximize their individual potential to learn and develop.

CED comprises a dedicated team of educators from various disciplines and teaching backgrounds who have come together to help plan the framework for the Problem-based Learning experience at RP.
INTERNATIONAL ADVISORY COMMITTEE

Agnes Tiwari
University of Hong Kong, Hong Kong

Cindy Hmelo-Silver
Rutgers University, USA

Dan Pratt
University of British Columbia, Canada

George Watson
University of Delaware, USA

KP Mohanan
National University of Singapore, Singapore

Marilyn Baird
Monash University, Australia

Ronald Barnett
University of London, UK

Terry Barrett
University College Dublin, Ireland

LOCAL ORGANISING COMMITTEE

Symposium Convenor: Glen O'Grady

Chair: Rita Roop
Secretariat: Lean Jie Xin, Jiepe Ng, Kiu Cheng Man, Andrea Chew, Lim Yen Weih, Moe Lee

IT Committee: Muhammad Amir, Ganithi V, Lim Li Siong
Publicity: Evelyn Kow, Pamela Peh

Programme: Vieta Tan, Yip Meng Fai, Lim Li Yin
Proceedings: Alvin Tay, Noraini Phuna, Nachanita Sockalingam

Catering: Noormala Atan, Jerniece Tan

Student Advisors: Tan Yee Yin, Poh Shafien

Dinner Banquet: Jessica Ang, Stanley Goh, Andrea Chan

Emcees: Premam Rajalingam, Violet Chan

Moderators: Jerome Rohtag, Judith Williams, Karen Goh, Jeannette Choy, Lisa Lim, Justyn Olby, Elaine Yew, Magdelaine Lew

Delegate Support: Tan Chin Pei, Lim Fun Siong, Nicole Wang

Videography/Photography: Nor Haslininda Mehad, Maisarah Abu Nonad

Advisors: Ganesh Kalyanam

Student Groups:

X-Synthesis Club
Student Ambassadors IG
Cypher Club
Photo IG
Student Performing Groups
WELCOME MESSAGE

On behalf of the organizing committee I would like to welcome you to the Republic Polytechnic’s 2nd International Symposium on Problem-based Learning.

It is not a trivial matter to attend an International Symposium on education in a climate where there are deep concerns about the physical and financial health of our communities and countries. We are appreciative that you could come and value your willingness to spend your time, money and talents with us to reflect upon, what can too often be taken for granted, and that is the idea of “learning”.

The interest and commitment to Problem-based Learning at the Republic Polytechnic is driven by our own fascination with learning. This Symposium is a wonderful opportunity for us to explore what learning entails (and what it does not), to consider own experiences as educators with learning, and the effect different philosophies and approaches to teaching have upon how educators, students, governments and the wider community conceive and measure learning.

We are so pleased to have three outstanding keynote speakers and numerous invited and specially selected speakers and workshop and poster presenters who are willing to help us all explore the idea of learning. I know they will both illuminate and challenge us. I would like thank all those presenting for their thoughtful preparation and my hope is that they get back from the Symposium as much, if not more, than they have prepared.

Such events do not happen without the tremendous energy and dedication of many people. We are indebted to the many people who have helped to make this Symposium possible. The Symposium is essentially the result of the whole Republic Polytechnic community’s commitment to quality education and an ongoing willingness to learn and share. I would like to thank our Principal and CEO, Mr Yeo Li Pheow, for his generous patronage, and the Deputy Principals, Mr Eden Liew and Dr W.A.M. Alwis, and all the directors of both the academic schools and centres and administrative units for their strong support. I would like to especially thank Rita Roop, who chaired the organising committee, for her untiring leadership, attention to detail and unfaltering patience. She has been very ably supported by the professionalism, creativity and enthusiasm of the entire staff of the Centre for Educational Development.

We have tried to plan a conference that will be both educatively and gastronomically filling, and we hope that you will be able to agree (in the past tense) that it was. Thank you for coming and I hope over the next three days you enjoy “learning about learning”!

Glen O’Grady
Director, Centre for Educational Development
Convenor, 2nd International PBL Symposium 2009
CONTENTS

Keynote Speakers
Programme Schedule
Presentation Schedule

Keynote Addresses

What do we Know about Problem-based Learning?: Current Status and Future Prospects
Cindy Hmelo-Silver

Learning Theories and the Preparation for Entry into the Health Professions
Marilyn Baird

‘Learning about Learning’ – a Conundrum and a Possible Resolution
Ronald Barnett

Invited Addresses

Holistic View of Student Learning: Moving Beyond Pedagogy
Mark A. Serva

Learning Tasks in Inquiry and Critical Thinking: Going Beyond PBL
K.P. Mohanan

The Use of Education for the Development of Professional Expertise: What Makes Graduates Successful?
Henk Schmidt

What can we Learn about Learning from how Problem-based Learning Students Talked about it in PBL Tutorials?
Terry Barrett

Self-directed Learning as Learning Process and a Learning Outcome
Charlotte Silén

Implementing PBL: Why is it so Hard?
Peter A.J. Bouhuys

Facilitating Student Learning during Problem-based Learning Tutorials
Agnes Tiwari
Posters

Problem-based, Community-oriented School Experience in Developing Countries: Faculty of Medicine, University of Gezira-Sudan (1978-2009)
Ahmed E.L. Tahir, Osman Taha Mohamed, Ali Habour and Osman K. Saeed ................................................................. 130

Teacher’s Interaction with and Preference for Online Professional Development Training Forum
C.H. Lin, W.S. Chang, K.S. Dong and M.L. Yen ................................................................. 131

Coaching for Performance: An RP Initiative
Evelyn Kow and Noormala Atan ................................................................. 132

Student Learning Processes Using Hybrid Problem-based Learning in Science Classrooms
F. Shahbodin and H. Badioze Zaman ................................................................. 133

Effectiveness of RP-PBL in Equipping Graduates with Competencies for Higher Education
Janice Yong and Esther Chng ................................................................. 134

Heartware@Admiralty: Strengthening National Affinity through a Problem Based Heritage Trail
Jay Mahardale, S. Ramesh, Normala Md. Jais, Jameela Masood and Rashidah Neville ................................................................. 135

To Investigate How Students’ Perception of their Facilitator’s Role Affects their Learning in RP’s 1-day-1-problem Learning Environment
Junainah Badron, Serene Choo and Esther Chng ................................................................. 136

The Study of Teachers’ Online Forum Participation Behaviors
M.L. Yen and C.H. Lin ................................................................. 137

A Local Instruction Theory for Implementing PBL as a Tool for the Integration of Mathematics and Physical Sciences Curricula
May Marnewick and Elza Lourens ................................................................. 138

The Questioning Skills in PBL Learning Method of the Second Year Nursing Students, Bachelor of Nursing Science
S. Tassri and K. Kiatumjorn ................................................................. 139

Evaluating the PBL Mentoring/ Buddy System for Staff at School of Applied Science, Republic Polytechnic
Saroj Deepak Waikar, Elaine Yew, Janice Yong, Esther Chng and Lee Wan She ................................................................. 140

Comparison of Problem-based Learning (PBL) Models in Higher Learning Institutions
Syed Ahmad Helmi, Khariyah Mohd Yusof and Zaidatun Tasir ................................................................. 141
Learning about Learning through Interactive Participation: a case of nine schools in Southern Thailand
Tipawan Sutin ................................................................. 142

A Study of Differences between Conventional Teaching Methods and Problem–based Learning in a General Education Course (Self and Society) at Walailak University
Tipawan Sutin ................................................................. 143

Round Table Discussions

Using an Action Maze to Develop Problem-solving Skills in Family Law
Andrew Gilbert ................................................................. 146

Exploring the Interdisciplinary Problem-based Learning of the Third-year Students Taking Applied Science in a PBL Context
Betsy Ng ................................................................. 147

One Foot in, the Other Still out – Laggard Assessment and Incomplete Pedagogical Innovations
Lim Li Yin ................................................................. 148

Assessment Perception: What it may Mean to Students
Mary Thomas ................................................................. 149

Knowledge Acquisition and Creation – A Comparative Study using Conventional Approach and Problem Based Learning Approach
P. Sharmila Kanna and K.V.R. Ravi ................................................................. 150

PBL: The Slow-time Catalyst for Transferring Theoretical Knowledge into Operational Practice
Peter Ivanoff and David Prescott ................................................................. 151

Pedagogies of Engagement in Science: A Comparison of PBL, POGIL and PLTL
Pratibha Varma-Nelson ................................................................. 152

“Engineering is Just Maths”: Discussion on Student Beliefs about Engineering
Premraj Rajalingam ................................................................. 153

Discipline Specificity and Learning: Examination of Belief, Epistemology and Language in PBL
Stanley Goh ................................................................. 154

A Proposal to Deliver Anatomy and Physiology Education through a Multimedia Problem Based Learning Package
Stephen White and K.J. Ousey ................................................................. 155

The Use of Problem-based Learning in a UK National Programme of Work-based Professional Development Masters Engineering Degrees
William Glew and David Edmondson ................................................................. 156
Preliminary Study of Problem-based Learning (PBL) Teaching Method in Medical Education
Zang Wei-jin, Zhao Ming, Liu Jin-jun and Wang Yuan ............................................. 157

Workshops

An Enquiry-based Exploration of Values and Learner-centered Perspectives in Global Education
Adele Aubrey ................................................................. 160

Learning Science – A Life Sciences Laboratory Perspective
Alvin Teo ........................................................................... 161

Implication of Graphing Calculator to Enhance the Teaching of Calculus
Betty Voon Wan Niu .......................................................... 162

What can we Learn about how Students Engage with Assessment Feedback in Problem-based Learning?
C. Craig, K. Lee and H. Wilkins ............................................. 163

Outcomes Based Approaches to Curriculum Design to Incorporate PBL Approaches
Diane Saltier ........................................................................ 164

Using Video Recorded Role Plays to Develop Professional Skills through Self and Peer Evaluation
Emma Pope ....................................................................... 165

Assessment in Problem Based Learning: Engaging a Different Paradigm
Glen O’Grady ................................................................. 166

A Workshop to Introduce Fundamental Concepts of Crafting Problems for a Creative Syllabus, with Particular Reference to Photography
Justyn Oly ................................................................. 167

Problem-based Learning for a 3rd Generation Singapore Armed Forces
W.T. Keng ........................................................................ 168

Assessing Student Learning
Lakshminarayanan Samavedham ............................................. 169

PBL Problem-crafting – The Challenge of Problems for Beginners
Mervin Beng .................................................................... 170

Faculty Development Approaches to Introduce PBL
Peter A.J. Bouhuijs .......................................................... 171

How Technology can Support PBL
Samuel Liu ......................................................................... 172
PBL Tutorials

The PBL Experience (Mathematics)
Ho Shih Chuan.................................................................................. 174

Experiencing PBL Methodologies in Science – How Students are Guided to Learn about Carbohydrate Metabolism through Problem-solving
Lee Wan She, Lee Hui Cheng and Hon Sook Mei................................. 175

The PBL Experience (Pharmaceutical Science)
Michelle Siow, Ivane Tay and Katrina Bok........................................ 176

PBL in Engineering Education
Urvi Maniar, Tan Yee Ping, Lim Chiew Yen and Hisham Moosa............ 177

The PBL Experience (Chemistry)
Wu Jing Yi and Eric Kwek................................................................. 178

Research Paper Themes

PBL Research

Influence of PBL on Student Learning Strategies and Learning Outcomes
B.J. Webster and W.S.C. Chan............................................................. 180

Implementing Problem-based Learning in University Science
C. Pepper ......................................................................................... 187

Exploration of Methodologies to Analyze Students’ Learning Process in Problem-based Learning
E.H.J. Yew and H.G. Schmidt............................................................. 194

The Influence of the Problem Format on Triggering Situational Interest in the Problem-based Learning Classroom
F.S. Iliescu and J.I. Rotgans............................................................... 202

The Effectiveness of Instructional Materials Motivation Survey (IMMS) in Measuring Learner Motivation in a PBL Environment
Frederick J.S. Chew, Pamela Peh and Jessica Ang......................... 208

Using the Presage, Process, Product (3P) Model to Understand Student Approaches to Learning
G. O’Grady, L.F. Choy and L.A. Lim.................................................. 214

Situational Interest and Achievement in the Active-learning Classroom
J.I. Rotgans and H.G. Schmidt......................................................... 234

Reflective Journaling through Blogging
Jay Mahardale, Rashidah Neville, Normala Md. Jais and Subramaniam Ramesh... 241
Factors Influencing Facilitators’ Successful Adaptation to a Problem-based Learning Environment  
Karen Goh ................................................................. 248

Exploring Problem-based Learning and Clinical Reasoning: An Action Research Study  
Karen L. Brady .............................................................. 254

Problem-based Metacognitive Development Revisited  
Kevin Downing, Flora Ning and Woo-Kyung Shin ........................................... 260

Are the Learning Outcomes using PBL Better?: An Action Research on PBL in Financial Management  
Kong, Patricia and Tan Hui Leng .......................................................... 267

Relationship between Approach to Learning and Achievement: Examining the Mediating Role of Achievement-related Classroom Behaviours  
L.F. Choy, G. O’Grady and J.I. Rotgans .................................................. 282

Making a Difference in Academic Self-efficacy in a Problem-based Learning (PBL) Environment through Information Literacy Skills: A Case Study in Taylor’s University College, Malaysia  
Loh Kah Heng ................................................................. 291

Second Language Learners’ Achievement in Literature through Problem Based Learning Method  
Muhammad Athar Hussain, Muhammad Nafees and Nabi Bux Jumani .................. 298

PBL and Motivation  
Nah Seok Ling ................................................................. 305

Students’ Perceptions of Scaffolding in Problem-based Learning: A Qualitative Case Study  
Padma Rao ................................................................. 315

Learning from Problem-based Learning in a Web-based Environment: A Systematic Review  
Poh Chee Lien ................................................................. 322

A Case-control Study Evaluating the Effectiveness of an Extended Induction Programme in a Fully-integrated PBL Curriculum  
S. Bridges, C. McGrath, J. Dyson, W.K. Leung and B. Webster ......................... 330

Adopting the PBL Approach to Conduct Thematic Class-meetings in an 8th Grade Classroom  
Shu-Hua Tang ................................................................. 337

A Pilot Study to Investigate the Effects of Problem-based Learning on Higher-order Thinking in Nursing Education  
Stephen Hung Chi-Chiu .......................................................... 342
Students’ Interaction in a Problem-based Learning Environment
_Suriani Sabtu_ ................................................................. 353

A Preliminary Study of Integrating Animated Pedagogical Agent (APA) into Problem-based Learning (PBL) Environment
_Talib, R., Shahbodin, F., Salam, S. and Ahmad, I._ ................................................................. 360

Quality Reflection According to Whom? A Process-oriented Reflection on the Role of Reflection Journals in Learners
_Theophila Chua and Vipavinee Artrpradid_ ................................................................. 367

Seeing the Bigger Picture through Problem-based Learning
_W. Trimmer, K. Laracy and M. Love-Gray_ ................................................................. 377

Assessment

An Alternative Method to Effective Teaching
_Bala Maniam and Geetha Subramaniam_ ................................................................. 384

First Year Students, First Year PBL Experience in a Large Class
_Hussain Othman_ ................................................................. 385

Measuring Critical Thinking in Problem Based Learning
_Jay Mahardale, Rashidah Neville, Normala Md. Jais and Subramaniam Ramesh_ .... 395

Into the Light: Teacher Led Assessment for Learning – A Work in Progress
_John Allan_ ................................................................. 396

The Role of Portfolio-based Assessment in an Enquiry Approach to Learning, Teaching and Assessment
_K. Lee and C. O’Leary_ ................................................................. 401

Learning about Teaching: A Student Teacher’s Emotions in the Journey of Growth
_K.C. Chan_ ................................................................. 408

Maximize the Effects of Problem-based Learning through Aligning the Curriculum with On-going and Multidimensional Assessment
_Loretta M.W. Ho and Eva S.Y. Chan_ ................................................................. 417

To What Extent are Students’ Self and Peer Assessments Predictive of their Classroom Performance Grades?
_Magdeleine D.N. Lew and Ho Keat Leng_ ................................................................. 425

A Longitudinal Study of Students’ Self-assessment Accuracy
_Magdeleine D.N. Lew, W.A.M. Alwis and H.G. Schmidt_ ................................................................. 432
Towards the Development of Guidelines for Peer-assessment in Problem-based Learning Online
N.A. Iahad, M. Qomaruddin and A.A. Rahman .................................................. 438

What can ‘PEAKS’ Profiles Tell us about Student Assessment in PBL?
O. Gilmore .................................................................................................................. 445

Assessing Learning through Reflective Essays in Music Education
P’ing Tean Hwa and Irene Tan Ai Lian ................................................................. 453

Efficacy of Self Assessment and Reflective Journals in Problem-based Learning
S. Venkatesan and A. Stojcevski ............................................................................... 461

Attitudes to E-Learning of Australian Health Science Students
Ted Brown and Brett Williams .................................................................................... 469

Curriculum Design

Outcomes Based Approaches to curriculum design to incorporate PBL approach
Diane Salter ................................................................................................................. 482

Library for Living in PBL Environment
Florence Okiror and W. A. M. Alwis ......................................................................... 488

Problem-based Learning, Pedagogy and Practice
K. Carroll, J. Clark, J. Kane, L. Sutherland and C. Preston ........................................ 494

Incorporating PBL in Mathematics Modules – Our Experience in Singapore Polytechnic
K.S. Fan, Y.Y. Soh, B. Ramachandran, I.W. Qian and A. Lim .................................... 502

Eleven Characteristics of Effective PBL Problems
Nachamma Sockalingam and H.G. Schmidt ................................................................ 508

Designing Scaffolds for Microcontroller Systems Module for Problem-based Learning
Nicole Wang, Tan Yee Ping and W.A.M. Alwis .......................................................... 516

Improving the Authenticity of the PBL Model through Learning and the Workplace and Community Approaches
S. Keating, R. Gabb and A. Stojcevski ......................................................................... 521

Epistemology

The Power of Connection: Sharing Epistemological Approaches to Reach Beyond Knowledge and Skill Acquisition in an Australian Higher Education Context
A. Brown and S. Reushle .......................................................................................... 530
PBL as a Learning Approach for the Development of Competencies and Human Capabilities
*M.J. Servan and A.I. Perez* ........................................................................................................... 538

**Facilitation**

Facilitating Students’ Learning to Acquire Specific Competencies: Case Study of Water Engineering Course at Civil Engineering Department Universitas Indonesia
*Dwita S.K. Marsudiantoro, Herr Soeryantono, Siti Murniningih, Toha Saleh and Dwinanti R. Marthany* .................................................................................................................. 548

Beginning Tutor Training Program: Design and Evaluation
*Hans Otting and Marte-Rinck de Boer* ...................................................................................... 556

Incorporating Thinking Tools to Enhance Facilitation of Problem-based Learning
*John Yeo and Irene Tan* .............................................................................................................. 564

Do They Do What They Say They Do? – A Comparison of Teacher Self-reports and Student Observations of their Teachers’ Classroom Practices
*Judith C. Williams, J.I. Rotgans, and H.G. Schmidt* ................................................................. 578

Effect of Facilitation on Outcomes and Students’ Perception in Problem-based Learning
*Khairiyah Mohd. Yusof and Syed Ahmad Helmi Syed Hassan* ................................................... 586

Do Students Concur on Good PBL Facilitation Practices?
*Muhd. Amir and John B. Collins* ................................................................................................ 592

How Does Facilitator Expertise Affect Student Achievement?
*R. Panchmatia and A. Ramli* ........................................................................................................ 602

**I.T. in Education**

Knowledge Practice Laboratory: Create, Share and Advance Knowledge
*A.M. Scapolla, D. Ponta, A. Locoro and H. Markkanen* .......................................................... 610

Developing the Concepts of Teamwork and Leadership through Online Gaming
*Cathryn Gortinsky and Mark A. Serva* ....................................................................................... 617

Using PBL To Meet The Needs of Mandatory Training in Healthcare
*K.J. Ousey and S.A. White* .......................................................................................................... 621

Mobile Learning: A Pilot for the Learning of Plant Science, Horticulture, Landscape Design and Management
*Lim Ee-Lon and Rickson Chua* ................................................................................................... 628

Making Educational DVD for the Faculty Development in the PBL Tutorial
*M. Ishimatsu, E. Tanaka, T. Ishitake and T. Akasu* .................................................................... 634

xii
Designing Problem Scenarios of Environmental Issues in Virtual Reality Environment
Mohd Ali Samsudin, Sharifah Norhaidah Syed Idros and Junaidi Abdullah.......................... 641

Improving PBL Results Through NLP (Neuro-linguistic Programming) in ICT. Specifically: Developing the Ability to Program Computers
Rutilio Rodolfo López Barbosa, María Guadalupe Torres Bonilla and Sergio Felipe López Jiménez.................................................. 647

Using DVD Simulations to Promote Clinical Fieldwork Education for Paramedic, Occupational Therapy, Physiotherapy and Nursing Students: An Innovative Teaching Method
Ted Brown and Brett Williams.......................................................... 654

Professional Development

Determining the Readiness of Staff for PBL Training and Development
Irene Tan Ai Lian.................................................................................. 664

Moving Towards Management: Aligning Teacher and Leadership Perspectives on Teaching
Judith C. Williams, J.I. Rotgans and H.G. Schmidt........................................ 670

One-day, One-problem: Classroom Management and Implications for Professional Development
M.F. Yip............................................................................................. 675

Self-Directed Learning

Influence of Ego-resiliency and Learning Strategies on Student Engagement in a Problem-based Learning Environment
C.P. Tan and J.I. Rotgans........................................................................ 684

Using the ITE Pedagogic Model PEPP&ER and PBL Training Approach to Achieve Optimal Self-Directed Learning by Students
Chan Chee Wah, Alvin............................................................................. 691

A Project Based Learning Approach to Engineering Education
E. Ambikairajah, J. Epps and M. Sheng.................................................... 692

The Relationship between Social Intelligence on Active, Flexible, Cooperative and Problem-based Learning
Joyce K.H. Nga and Saleena V.E.O. Abdul Kader.................................... 699

The Role of Thinking Tools in a Problem-based Learning Curriculum: Cognition and Self-direction
Keng Wan Ling...................................................................................... 707
What Makes a Deep and Self-directed Learner: Exploring Factors that Influence Learning Approaches and Self-directed Learning in a PBL Context at a Malaysian Private University
Megan Yih Chyn A. Kek and Henk Huijser ....................................................... 708

Service-learning and Metacognition: Exploring New Ways of Thinking and Learning
Stanley Goh and Jessica Ang ........................................................................ 720

Small Group Teaching

Teaching Perspective Differences among PBL Tutors with Contrasting Backgrounds of Professional Expertise
John B. Collins, Pawel M. Kindler and Dan Pratt ........................................ 724

Small Group Learning in Second Language Teacher Education
Peter Carter ..................................................................................................... 733

TeamWorks@Admiralty
Jay Mahardale, Rashidah Neville, Normala Md. Jais and Subramaniam Ramesh ..... 739