ONLINE PROJECT BASED COLLABORATIVE LEARNING MODEL TO ENHANCE STUDENTS’ SOFT SKILLS

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SHARIFAH NADIYAH BINTI RAZALI

A thesis submitted
in fulfilment of the requirements for the degree of Doctor of Philosophy

Faculty of Information and Communication Technology

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2016
DECLARATION

I declare that this thesis entitles Online Project Based Collaborative Learning Model to Enhance Students’ Soft Skills is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature : ....................................................
Name    : SHARIFAH NADIYAH BINTI RAZALI
Date     : 10 OCTOBER 2016
APPROVAL

I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in term of scope and quality for the award of Doctor of Philosophy.

Signature : .................................................................
Name : PROFESSOR DR. FAAIZAH BINTI SHAHBODIN
Date : 10 OCTOBER 2016
DEDICATION

This project is dedicated to

my beloved husband, Mohd Hafiez Ahmad
for the sacrifices made and support offered;

my beloved parents, Hj Razali Lazim and Hjh Rahemah Abd Rahim
for their loves and bless;

my lovely kids Qistina Amani, Qeisha Amani and Muhammad Adam Rayyan
who are always giving me the strength.
ABSTRACT

Collaborative Learning (CL) has been proven to promote soft skills and has widely implemented in teaching and learning. However, initial study found the lack of soft skills issue among Malaysian Polytechnic graduates causing the students to face unemployment. Therefore, the purpose of this study is to evaluate the effectiveness of Online Project Based Collaborative Learning (OPBCL) model in enhancing students’ soft skills. This study involves both qualitative and quantitative methods. This study has been divided into three phases which are (i) Analysis; (ii) Design and Development; and (iii) Implementation and Evaluation. In the analysis phase, all factors and elements that affect the effectiveness of Online Collaborative Learning (OCL) were identified through document review and validated by experts. At the end of this phases, an OCL model was proposed. In the design and development phase, OPBCL was designed and developed based on the proposed model. Besides that, three testing instruments were developed to assess the effectiveness of OPBCL which are (i) Pre and Post Soft Skill Test (SST), (ii) Collaborative Learning Rubric (CLR) and (iii) Perception of Online Collaborative Learning Questionnaire (POCLQ). Pilot study was conducted in order to ensure that all the instruments are valid and reliable. Finally, pre and post-test with non-equivalent control group design were used in implementation and evaluation phase which involves 106 respondents from Malaysian Polytechnic. The respondents were divided into three groups called Control, Treatment I and Treatment II group where their soft skills are assessed for comparison between traditional project based learning method (Control), online project based learning using CIDOS platform (Treatment I) and online project based learning using OPBCL platform (Treatment II). All collected data were analysed using SPSS 19.0 software. Findings from the pre and post soft skill indicated that all groups had positive effects on the soft skills of the students but in terms of the more successful group, the results showed that Treatment II is more success than Control group followed by Treatment I group. In addition, findings on the pre and post soft skills test of the critical thinking and problem solving (CTPS), collaboration (CS) and communication (CM) skills showed that for CTSP skill, Treatment II is more success than Control group followed by Treatment I group. For CS skill, there is no significant differences between Treatment I and Treatment II group. However, both treatment groups are more success than Control group. For CM skill, there is no significant differences between Control and Treatment II group. However, both Control and Treatment II groups are more success than Treatment I group. In conclusion, the proposed OPBCL model has shown an enhancement in students’ soft skills.
Pembelajaran Kolaboratif (PK) telah terbukti berkesan dalam membangunkan kemahiran insaniah dan telah dilaksanakan secara meluas dalam proses pengajaran dan pembelajaran. Namun, kajian awal mendapati graduan Politeknik Malaysia kurang kemahiran insaniah mengakibatkan mereka menganggur. Oleh itu, kajian ini bertujuan untuk menilai keberkesanan model Online Project Based Collaborative Learning (OPBCL) dalam meningkatkan kemahiran insaniah pelajar. Kajian ini melibatkan kaedah kualitatif dan kuantitatif. Reka bentuk kajian terbahagi kepada tiga fasa iaitu (i) analisis; (ii) reka bentuk dan pembangunan; dan (iii) implementasi dan penilaian. Dalam fasa analisis, semua faktor dan elemen yang memberi kesan terhadap keberkesanan Pembelajaran Kolaboratif atas talian (OCL) dikenal pasti melalui semakan dokumen dan validasi pakar. Di akhir fasa ini, satu model OCL dicadangkan. Dalam fasa reka bentuk dan pembangunan, OPBCL telah direka bentuk dan dibangunkan berdasarkan model cadangan. Selain itu, tiga instrumen ujian turut dibangunkan bagi menilai keberkesanan OPBCL iaitu (i) Ujian Kemahiran Insaniah pra dan pos (SST); (ii) Rubrik Pembelajaran Kolaboratif (CLR); dan (iii) Soal Selidik Persepsi bagi Pembelajaran Kolaboratif atas Talian (POCLQ). Kajian rentis telah dilaksanakan untuk memastikan semua instrumen adalah sah dan boleh dipercayai. Akhirnya, ujian pra dan ujian pos dengan reka bentuk kumpulan kawalan telah digunakan dalam fasa implementasi dan penilaian yang melibatkan 106 responden dari Politeknik Malaysia. Responden dibahagi kepada tiga kumpulan yang dinamakan kumpulan Kawalan, Rawatan I dan Rawatan II di mana kemahiran insaniah mereka dinilai bagi membandingkan kaedah tradisional projek berasaskan pembelajaran (Kawalan), pembelajaran berasaskan projek dalam talian menggunakan platform CIDOS (Rawatan I), dan pembelajaran berasaskan projek dalam talian menggunakan platform OPBCL (Rawatan II). Perisian SPSS 19.0 digunakan untuk menganalisa semua data yang diperolehi. Dapatkan ujian kemahiran insaniah sebelum dan selepas menunjukkan kesemua kumpulan mempunyai kesan positif terhadap kemahiran insaniah pelajar tetapi dari segi peningkatan menunjukkan kumpulan Rawatan II adalah lebih berjaya daripada kumpulan Kawalan diikuti oleh kumpulan Rawatan I. Di sampling itu, analisa ujian kemahiran pra dan pasca ke atas kemahiran pemikiran kritis dan penyelesaian masalah (CTPS), kolaborasi (CS) dan komunikasi (CM) menunjukkan bahawa bagi kemahiran CTPS, kumpulan Rawatan II adalah lebih berjaya daripada kumpulan Kawalan diikuti oleh kumpulan Rawatan I. Bagi kemahiran CS, tidak ada perbezaan yang signifikan antara kumpulan Rawatan I dan Rawatan II. Walau bagaimanapun, kedua-dua kumpulan rawatan adalah lebih berjaya daripada Kumpulan Kawalan. Untuk kemahiran CM, tidak terdapat perbezaan yang signifikan di antara kumpulan Kawalan dan Rawatan II. Walau bagaimanapun, kedua-dua Kawalan dan Rawatan II kumpulan adalah lebih berjaya daripada Kumpulan Rawatan I. Kesimpulannya, model OPBCL yang dicadangkan dapat menunjukkan peningkatan dalam kemahiran insaniah pelajar.
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Permission Conduct Study
### LIST OF ABBREVIATIONS

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<tr>
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<tbody>
<tr>
<td>MOHE</td>
<td>Ministry of Higher Education</td>
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<td>Higher Education Institution</td>
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<td>DPE</td>
<td>Department of Polytechnic Education</td>
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<tr>
<td>CL</td>
<td>Collaborative Learning</td>
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<td>PjBL</td>
<td>Project Based Learning</td>
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<td>OCL</td>
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<td>Online Project Based Collaborative Learning</td>
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<td>LMS</td>
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<td>CIDOS</td>
<td>Curriculum Information Document Online System</td>
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<td>Moodle</td>
<td>Modular Object Oriented Development Learning Environment</td>
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<td>SDE</td>
<td>System Developer Expert</td>
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<tr>
<td>SME</td>
<td>Subject Matter Expert</td>
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<td>OCLE</td>
<td>Online Collaborative Learning Expert</td>
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<tr>
<td>CTPS</td>
<td>Critical Thinking and Problem Solving Skill</td>
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<td>CS</td>
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<td>Communication Skill</td>
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