Developing the OBTL Curriculum with Blended Learning to Enhance Student Learning Effectiveness in the Undergraduate ECE Program

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Abstract

Background: The project included continuous assessment, group presentation, self-learning, and individual assignment to assess students’ learning outcomes. A self-learning system was set up as e-learning for students to monitor their learning progress during the semester, including two online exercises and a checklist of learning outcomes. The presentation was assessed by self-evaluation, peer evaluation, and lecturer evaluation.

Aims: The study aimed to develop an OBTL curriculum in early childhood education (ECE) to demonstrate exemplary cases of effective teaching and learning in the undergraduate ECE program.

Method: An action research, dual-scaling analysis, and focus group interviews were conducted to reveal students’ learning effectiveness in the study. Seventy-eight Year 3 full-time BEd (ECE) pre-service students (75 females, three males) and 92 Year 1 full-time (all female) BEd (ECE) students were invited to participate in the study. The CLEI (College Learning Effectiveness Inventory) was used to measure student learning effectiveness during the study.

Results: The results indicated that the more learning outcomes students achieved, the higher the scores in academic performance achieved.

Conclusion: This implies that clear and well-stated learning outcomes can help students learn better. As regards learning effectiveness, students’ academic self-efficacy was significantly improved by the end of the two courses. Students showed higher-order cognitive ability to reflect on past experiences and make personal choices based on management of time, goal, and priority setting.

Keywords: OBTL curriculum; ECE program; blended learning

發展果效為本課程結合網上學習提昇學習效能應用於幼教學士課程

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摘要

背景：果效為本評核學生學習果效中包括持續評估，小組滙報，自我網上學習，及個人習作。而自我網上學習是在網上學習平台建立一系列單元果效評估表及兩個網上練習從而檢視學生學習進度。小組滙報則包括自我評估、朋輩評估、及老師評估。

目的：主要為幼教課程發展一個果效為本課程提供一個有效率的教與學示範個案。

方法：以行動研究方法配合雙向系分析及團體焦點訪問檢視學生學習效能感。當中選取了78位幼教全日制三年級學士學位學生（75女三男）及92位幼教全日制一年級學士學位學生參與是次研究。大學學習效能評估量表作為是次研究的評估工具。

結果：學生在果效系列評估中完成較多他們的網上測驗，他們的學科成績亦較高。

結論：清晰而明確果效目標能幫助學生學習。學生在學術中學習效能明顯得到提昇，他們能有效反映學習經驗、能基於有效時間管理及優次安排作出個人學習編排。

關鍵詞：果效為本課程、幼教、網上學習
Introduction

Outcome-based teaching and learning (OBTL) is concerned with curriculum design and insuring that contents, delivery, activities and assessments are all aligned to help students to attain those intended learning outcomes (Willis & Kissane, 1995; Towers, 1996).

Outcome-based education has been widely accepted as a model for restructuring education in many countries, such as Australia (Killen, 2000), New Zealand (Sundar, 1999), the UK (Ross & Davies, 1999), the USA (Manno, 1995; Harden, Crosby & Davis, 1999), South Africa (Botha, 2002), and Hong Kong Special Administrative Region (China) (Ewell, 2006), etc. Furthermore, outcome-based curriculum planning has been increasingly used in many subjects, including medical sciences (Harden et al., 1999; Davenport, Davey & Ker, 2005), information technology (Lorenzen, 1999), engineering (Dodridge & Kassinopoulos, 2003), business (Wee, 2003), etc.

OBTL concentrates more on the learning process, which may improve both the student’s and the teacher’s perception of teaching and learning. Biggs and Moore (1993, p73) define the learning approach as “a consistent way of going about a particular task, or learning/study.” Biggs (1987) divides learning approaches into three categories: surface approach, deep approach and achieving approach. The surface approach is accompanied by rote learning without critical and reflective thinking about what is taught. The deep approach is associated with attainment of personal meaning and reconstruction of knowledge. Achieving approaches (either deep or surface) are practiced to attain the highest grades in a particular circumstance. Some researchers have studied the relationship between learning approaches and other areas, such as academic outcomes (David, Gerard, Filip, & Piet, 2005), assessment methods (Smith, & Miller, 2005), or students in different disciplines (Skogsberg, & Clump, 2003). For instance, Skogsberg and Clump found that students’ learning approaches are discipline-related. Students studying science were more likely to adopt a surface learning approach than students studying art, whereas students studying psychology were more likely to adopt deep learning approaches, and business students mainly demonstrated the surface learning approach. Psychology students generally used a deep approach and biology students a surface approach.

Outcome-based Education in Hong Kong

There has been a recent increase in international interest in student learning outcomes. The University Grants Committee (UGC), a non-statutory advisory committee responsible for advising the government of the Special Administration Region (SAR) of the People’s Republic of China on development and funding needs of higher education institutions in the SAR, believes that placing an emphasis on learning outcomes helps institutions to focus their education effort on achieving their goals, leading to better teaching and learning. The launch of OBTL will meet two future challenges, (a) fostering progress towards four-year degrees and (b) enhancing international competitiveness.

To foster progress in the revised four-year degrees, the feasibility of curriculum design with an extra year of undergraduate study can promote “student generic skills” and “whole person development.” Explicit student learning outcomes help both teachers and students achieve the above goals.

Explicit learning outcomes themselves can clearly address a common set of generic competencies
that include high levels of problem-solving, critical thinking, ethical decision-making, and professional communication and social interaction skills. Demonstrating the above competencies as defined in learning outcome terms, is becoming increasingly important in the global higher education market-place.

**HKIED’s Experience of OBTL**

The Hong Kong Institute of Education has embarked on a journey to review its approaches to teaching and learning. We have taken advantage of the University Grant’s Committee’s outcome-based education initiative to do this. In the first instance, we have termed the initiative in the HKIED context “Outcome-based Learning (OBL)” because we want the focus to be on student learning (Kennedy, 2011).

In the past few years, teaching, learning and assessment strategies have been developed to facilitate OBL implementation through pilot studies. Future plans for OBL will focus efforts on assessment and the weaving of OBL into the whole curriculum of the five-year BEd programs as well as the four-year general degree programs (Lee, 2011).

The HKIED prepares students to become caring and committed education professionals with positive dispositions, sound academic knowledge and the professional competence to meet future challenges. Our graduates are expected to possess the 4Cs, i.e. Character, Competence as professional, Cultivation of wisdom and intellect, and Citizenship, with seven generic skills, i.e. problem-solving, critical and reflective thinking, creative and innovative thinking, ethical understanding and decision-making, communication skills, social interaction skills, and global perspective and multi-cultural competence (HKIED, 2011).

**Blended Learning in OBL**

There are inherent benefits in face-to-face interaction (both among learners and between learner and instructor) as well as inherent advantages in using online methods in teaching. Thus the aim of using blended learning approaches is to find a harmonious balance between online access to knowledge and face-to-face human interaction (Osguthorpe & Graham, 2003). Therefore, an effective use of blended learning in the classroom means learning how to integrate face-to-face classroom teaching and online technology to enhance student learning. It is believed that the OBL curriculum and blended learning can promote teaching and learning effectiveness.

The advantages of OBTL have been agreed by many researchers, as the curriculum guides clearly what is taught and what is assessed (Harden et al., 1999). When teaching contributes greatly to the learning outcomes, this may relate teaching directly to the field of practice, and contribute to other learning outcomes such as students’ communication skills and team collaboration (Abrams, 1995; Brown, 1988). The results of OBTL are assessed in terms of the academic results of students (Botha, 2002; Davidson, 2002), but its impact on learning activities, especially students’ learning approach and learning effectiveness, has not received much attention. Students’ learning activities, however, are always designed by teachers under the principles of OBTL. Students may also adjust their learning approaches and learning effectiveness in the OBTL system. Thus, understanding the impact of OBTL on learning approaches and learning effectiveness offers a better understanding of the value of OBTL.

The present study aims to develop an OBTL curriculum in two courses, “Research in Childhood” and “Development of Early Childhood Education,”
of Early Childhood Education (ECE) to demonstrate exemplary cases of effective teaching and learning in the undergraduate ECE program. The objectives are:

1. Improving the quality of teaching and learning - best practice is to assess the teaching and learning outcomes in a valid and reliable way using different assessment methods, including online exercises, group presentation, discussion forum, and multi-evaluation (i.e. self- and teacher evaluation).

2. Promoting students’ self-regulated behavior - different assessment methods involve students with higher-order cognitive ability in reflecting on past experiences and present external demands, making personal choices based on management of time, goal, and priority setting, and then handling the resulting consequences.

3. Improving the content and form of assessments of the modules - different assessment templates will be developed for online exercises, self-evaluation, and teacher evaluation. The newly developed assessment templates for different assessments are better than the single traditional assessment (e.g. individual assignment) at assessing students’ learning outcomes.

4. Utilizing blended learning in the enhancement of teaching and learning in two courses - to improve student learning and thereby increase flexibility in terms of how, when and where students study. The project will also apply technology in peer and self-assessment methodologies, thereby enabling additional enrichment of self-directed learning approaches.

5. OBL impacts on learning approaches - how outcome-based teaching and learning impacts on the learning approaches of the full time undergraduate ECE students.

There are four measures of the study to evaluate the above objectives. First, the ongoing self-evaluation of chapter learning outcomes was uploaded onto the e-learning system in order to explore students’ self-regulated behavior and quality of teaching and learning; students were then asked to evaluate themselves how many objectives they had achieved before each quiz. A correlational study was undertaken to understand the relationship between the number of the achieved learning outcomes and the quiz result. Second, a pre-post study was conducted to understand students’ learning effectiveness on the above two courses. Students’ learning effectiveness was evaluated in three areas: academic self-efficacy (ASE), organization and attention to study (OAS), and class communication (CC). Third, students were also asked to rank the importance of the items in these three areas in the middle of the semester in order to facilitate dual scaling for the analysis of categorical data. The result of dual scaling could reflect what factors affecting their learning effectiveness during the courses. Finally, the focus group interviews could give us a summary of what they have really learned with that matched the course learning outcomes in the courses.

Method

Sample

Seventy-eight Year 3 BEd (ECE) full-time students, 75 females and three males, in the module “Research in Childhood” in Study 1 (Semester 2, 2009/10), and 92 Year 1 BEd (ECE) full-time students, all females, in the module “Development of Early Childhood Education” in Study 2 (Semester 1, 2010/11), were invited to participate in the study. Ethical approval for the study was granted by the institute’s ethics committee.
Instruments

Chapter learning outcomes checklist (CLOC) - chapter learning outcomes checklists were set and uploaded onto the e-learning system. Students were then asked to evaluate how many learning outcomes of each chapter they had achieved. The use of CLOC was intended to provide ongoing feedback to teachers to monitor their teaching effectiveness in class. Student self-regulated learning behavior was assessed by self-evaluation of CLOC.

College learning effectiveness inventory (CLEI) - CLEI is an inventory devised by a group of researchers in Kansas University (Newton et al., 2008). It comprises six scales and 50 questions for measuring the factors that impact on student learning. The six scales comprise academic self-efficacy (ASE), organization and attention to study (OAS), stress and time press (STP), involvement with college activity (ICA), emotional satisfaction (ES), and class communication (CC). This inventory approach was modified by Russell and Petrie (1992), who stated that student learning was probably influenced by academic, personal, social and environmental factors. Participants rate their learning approach and attitude on a five-point scale, from 1 (Never) to 5 (Always). Only academic self-efficacy (ASE), organization and attention to study (OAS), and class communication (CC) were selected to measure student expectation of success, time management and goal planning, and verbal and nonverbal efforts in class activity in the present study.

Academic self-efficacy (ASE) scale.

This scale serves to measure students’ expectation of success, effort made in the school setting and academic ability. High scores reflect high anticipation of goal achievement and outcome, whereas low scores indicate high concern about future achievement. The reliability of this scale was found to be 0.87 in the present study.

Organization and attention to study (OAS) scale.

This measures students’ organization of tasks, time management and goal planning. High scores reflect effective planning whereas low scores reflect lack of attention and avoidance of goal planning. The reliability of this scale was 0.81 in the study.

Class communication (CC) scale.

This measures both verbal and nonverbal efforts to engage in class activity. High scores reflect good involvement in class activity, whereas low scores reflect reluctance to join in class activity. The reliability of this scale was 0.68.

Design and Procedure

Study 1 (Semester 2, 2009-2010) Jan. to Apr. 2010 (Course: Research in Childhood)

Seventy-eight Year 3 BEd (ECE) full-time students were asked to complete the online chapter learning outcomes checklist in e-learning after class. Teachers would then receive the feedback from the e-learning after class to see how many chapter learning outcomes had been achieved. Teachers revisited the learning outcomes that had not been achieved in the last class. Students had to take an in-class quiz in week 9 and two online exercises in week 3 and week 6 respectively. The design of online exercises and the in-class quiz was aligned with the chapter learning outcomes. The CLEI was distributed to the students to complete in the first and the last class to assess learning effectiveness. The rank-order version of CLEI was given to students to rank the importance of items (1 = most important and 3 = least important) on three subscales: academic self-efficacy (ASE), organization and attention to study
(OAS), and class communication (CC). Finally, eight students were invited to attend a focus group interview to provide more in-depth information on learning effectiveness in the OBL formatted module of “Research in Childhood” at the end of the semester.

Study 2 (Semester 1, 2010-2011) Sept. to Nov. 2010 (Course: Development of Early Childhood Education)

Ninety-two Year 1 BEd (ECE) full-time students were recruited to repeat the same procedures as for Study 1, except that they were required to take two online quizzes instead of two online exercises.

Data Analysis

Pearson correlation was used to examine the relationship between number of learning outcomes achieved and quiz scores. Repeated measure (paired-sample t-test) was employed to evaluate the learning effectiveness between the first class and the last class.

Dual scaling analysis was adopted to show the importance of the items in three subscales: academic self-efficacy (ASE), organization and attention to study (OAS), and class communication (CC). The data were analyzed with dual scaling (Nishisato, 1980, 1994), which is sometimes referred to as correspondence analysis (Greenacre, 1984). The result allows us to explore the structure of categorical or ordinal variables included in the scale. The two-way frequency cross-tabulation table was used to show the rank-order relationship among the items in the three subscales in the present study. It can also be used as an alternative to factor analysis. The variables are grouped together in terms of derived weights.

Nvivo 8 was employed to organize, classify, and analyze the qualitative data of two focus group interviews. Charts were generated by Nvivo 8 to report the summary of student views of what they learned from the courses.

Results

Normality of the Data

Data screening is strongly recommended to test the normality of data distribution especially when the sample size is less than 100 (George & Mallery, 2003). Skewness and kurtosis were used to examine the normality of the data; all of the data ranged from -0.45 to 0.62 in Study 1 and -0.34 to 0.71 in Study 2. The data were considered to be normally distributed, given that some statisticians suggest a threshold of ±1 as indicative of a departure from normality (George & Mallery, 2003; Morgan, Griego, & Gloeckner, 2001).

Learning Outcomes and Academic Achievement

A correlation analysis was employed to test the relationship between the number of learning outcomes achieved and quiz scores. The result indicated that there were significant positive relationships between the number of learning outcomes achieved and the quiz scores, with Study 1 \( r = 0.44, p < .05 \), and Study 2 \( r = 0.53, p < .01 \) (see Table 1).

<table>
<thead>
<tr>
<th>Learning outcomes achieved</th>
<th>Quiz scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study 1 (n=78)</td>
<td>Study 2 (n=92)</td>
</tr>
<tr>
<td>0.44*</td>
<td>0.53**</td>
</tr>
</tbody>
</table>

Note. * p < .05 ** p < .01
Learning Effectiveness and OBL with Blended Learning

This is a one-group pre-post experimental design. A repeated measure using paired-sample t-test was used to examine whether student learning effectiveness was influenced by the OBL curriculum with blended learning design. For Study 1, the estimation results indicated that there was a significant effect on two of the CLEI subscales, except for class communication (CC). The two subscales were $t_{\text{ASE}} = 5.22$, df = 76, $p < .01$ and $t_{\text{OAS}} = -4.32$, df = 76, $p < .01$ (see Table 2). For Study 2, there was a significant effect on all CLEI subscales, $t_{\text{ASE}} = 2.43$, df = 90, $p < .01$, $t_{\text{OAS}} = -2.82$, df = 90, $p < .01$, and $t_{\text{CC}} = -4.22$, $p < .01$ (see Table 2). Table 2 presents the means of the student learning effectiveness for both studies in the two respective classes, and most of the subscale means in Study 2 appeared to be among the highest.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Learning Effectiveness in Two Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Study 1</td>
</tr>
<tr>
<td></td>
<td>df</td>
</tr>
<tr>
<td>Academic self-efficacy</td>
<td>76</td>
</tr>
<tr>
<td>First class</td>
<td>3.28</td>
</tr>
<tr>
<td>Last class</td>
<td>3.03</td>
</tr>
<tr>
<td>Organization &amp; Attention</td>
<td>76</td>
</tr>
<tr>
<td>First class</td>
<td>3.01</td>
</tr>
<tr>
<td>Last class</td>
<td>2.98</td>
</tr>
</tbody>
</table>

Note. *$p < .05$, ** $p < .01$.

Comparison of Dual Scaling Analysis Between Study 1 and Study 2

Dual scaling analysis of these data with SPSS’s multidimensional scale for both Study 1 and Study 2 accounted for 56.4% and 57.2% of the variance respectively. The weights of both Study 1 and Study 2 for the items of three subscales are shown in Table 3.

Academic Self-efficacy (ASE)

In Study 1, Year 3 students thought Item 1 “I am aware of the assignments that are due in next week” with a large positive value and Item 7 “I doubt if I can make the effort to finish the module” with a moderate positive value were the first two most important items in academic self-efficacy (ASE), whereas they thought Item 10 “I am determined to do what it will take in order to succeed with my goals” was the least important in the ASE subscale. In Study 2, Year 1 students also thought Item 1 was the most important item in the ASE subscale. All other items presented as neutral and were close to zero (see Table 3). The largest positive and negative value also indicated that when students chose item 1 as the most important item in the ASE, most of them would then choose item 4 as the least important item in ASE in Study 1. The same interpretation applied to Study 2.
**Organization & Attention to Study (OAS)**

In Study 1, Item 4 “I break big assignments into manageable pieces” was ranked as the most important item, whereas Item 2 “I find my attention wandering in class” was perceived as the least important item in the OAS subscale. In Study 2, Year 1 students ranked Item 3 “I make study goals and keep up with them” as the most important item and Item 5 “I find myself daydreaming when I study” as the least important item in the subscale (see Table 3).

Table 3

*Dual Scaling Analysis of Study 1 and Study 2*

<table>
<thead>
<tr>
<th></th>
<th>Derived weights</th>
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<tbody>
<tr>
<td></td>
<td>Study 1 (n=78)</td>
</tr>
<tr>
<td><strong>Academic self-efficacy (ASE)</strong></td>
<td></td>
</tr>
<tr>
<td>Item 1</td>
<td>2.93</td>
</tr>
<tr>
<td>Item 2</td>
<td>-0.95</td>
</tr>
<tr>
<td>Item 3</td>
<td>-0.80</td>
</tr>
<tr>
<td>Item 4</td>
<td>-1.33</td>
</tr>
<tr>
<td>Item 5</td>
<td>0.57</td>
</tr>
<tr>
<td>Item 6</td>
<td>-0.91</td>
</tr>
<tr>
<td>Item 7</td>
<td>1.02</td>
</tr>
<tr>
<td>Item 8</td>
<td>0.23</td>
</tr>
<tr>
<td>Item 9</td>
<td>0.34</td>
</tr>
<tr>
<td>Item 10</td>
<td>-1.09</td>
</tr>
<tr>
<td><strong>Organization &amp; attention to study (OAS)</strong></td>
<td></td>
</tr>
<tr>
<td>Item 1</td>
<td>0.77</td>
</tr>
<tr>
<td>Item 2</td>
<td>-1.44</td>
</tr>
<tr>
<td>Item 3</td>
<td>0.12</td>
</tr>
<tr>
<td>Item 4</td>
<td>1.81</td>
</tr>
<tr>
<td>Item 5</td>
<td>-0.88</td>
</tr>
<tr>
<td>Item 6</td>
<td>-0.39</td>
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<tr>
<td><strong>Class communication (CC)</strong></td>
<td></td>
</tr>
<tr>
<td>Item 1</td>
<td>0.41</td>
</tr>
<tr>
<td>Item 2</td>
<td>0.61</td>
</tr>
<tr>
<td>Item 3</td>
<td>0.70</td>
</tr>
<tr>
<td>Item 4</td>
<td>-1.73</td>
</tr>
</tbody>
</table>

**Class Communication (CC)**

Item 4 “I cannot seem to express my ideas on paper very well” with a moderate negative value was ranked as the least important item in both Study 1 and Study 2. No important item was found in Study 1. Item 3 “I dread the thought of getting test results in certain classes” was treated as the most important item in the subscale in Study 2.

**Summary of Focus Group Interviews in the Two Studies**

**Percentage of different codes in focus group interviews (Study 1)**

We set 3% as the cut-off point. The following seven items are what Year 3 students thought they had learnt in the course of “Research in Childhood”: 1. enhancement of concentration span, 2. SPSS content not covered enough, 3. knowledge useful for final year project, 4. course content not in-depth enough, 5. useful to understand research paper, 6. course content not integrated enough, and 7. application to final year project.
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Percentage of Different Codes in Focus Group Interviews (Study 2)

In Study 2, Year 1 students considered two things, 1) applying knowledge to school attachment (SA), and 2) learning ability, obtained in the course of “Development of Early Childhood Education.”
Discussion

Implications of the Study

Learn better with clear and well-stated learning outcomes.

Students performed better in the quizzes when they achieved more learning outcomes in the checklist. This is reflected in Table 1. It implies two perspectives in the learning process: (a) students know what they have learnt, and they can evaluate themselves how much they understand in class, (b) students can apply what they have learnt in the quiz. In other words, the learning outcomes can help them learn better.

Learning effectiveness is situational.

Students in both Study 1 and Study 2 achieved higher scores in academic self efficacy at the end of the semester. This reflects that students have higher anticipation of goal achievement and outcome at the end of the semester (Newton et al., 2008). Students in both studies are very aware of the assignment due dates, since most of the assignments in the ECE department are set two weeks after the class ends.

Both Year 1 and Year 3 students gained lower scores in OAS, possibly owing to lack of attention and avoidance of goal planning at the end of the semester. Only Year 1 students scored lower in CC at the end of the semester, which may reflect they are reluctant to join in class activity. It was found that learning effectiveness is situational or influenced by environmental factors. Students focus more on their assignment write-up than on goal planning and class activities, since the assignment due dates are drawing nearer. The scores in OAS and CC may also be affected by personal factors, like skills of time management and organization of tasks. This is consistent with Russell and Petrie’s study in 1992 which found that student learning was likely to be influenced by personal, social and environmental factors.

Learning approaches of ECE students.

Skogsberg and Clump (2003) found that students’ learning approaches are discipline-related. Psychology students generally used a deep approach, and biology students a surface approach. ECE students may adopt achieving approaches (either deep or surface) which are practiced to attain the highest grades in a particular circumstance. This could be reflected in the CLEI subscales. The academic self-efficacy scale (ASE) obtained the highest means among the three subscales in the two studies. ECE students consider expectation of success, effort made in the school setting and academic ability. Whereas surface and deep approaches are mutually exclusive, an achieving approach may be linked to either a surface or a deep approach. Surface-achievers, for instance, systematically rote learn selected details to obtain high grades; deep achievers, who are often the better students, are organized and plan ahead in their search both for meaning and for high marks (Leung, 2003). It is suggested that ECE students’ learning approaches in either surface-achieving or deep-achieving approaches should be further investigated. This is also what Kember (1996) suggests for Chinese learners, i.e. “rote” learning coupled with high academic achievement.

Learning effectiveness comparison between freshmen and senior ECE students.

It was found that all the means of the three subscales (ASE, OAS, CC) of ECE freshmen were higher than those of senior ECE students. This implies that freshmen have higher expectation of success, strive more to enhance academic ability, have better organization of task and time management, and are more involved in class activities than senior
students. This may be because freshmen feel more excited about a new learning environment which is different from their experience in high school. Second, senior students have a heavy workload, with coursework in school and teaching practice outside school. They always find it difficult to handle teaching practices along with the usual workload of the semester.

Limitations

No comparison group.

Critics of OBL object to the use of standardized tests because it is fundamentally unfair to use the achievement tests for impoverished disadvantaged students as they do for more advantaged students (Lui & Shum, 2010). Therefore, it is methodologically advised to divide two groups: one group was an experimental group receiving OBL with a blended learning curriculum, and the other group was a control group receiving OBL with no blended learning to see whether OBL with blended learning can enhance students’ learning effectiveness. The generalizability of the results to students of other disciplines should also be discussed.

Suggestions

OBL with blended learning.

It is suggested to adopt in design new 335 curriculum which can facilitate students to attain the intended learning outcomes (Willis & Kissane, 1995; Towers, 1996), enhance students’ generic and specific skills, and improve both the student’s and the teacher’s perception of teaching and learning. Practically, the use of blended learning can help teachers decrease exercises and/or quizzes grading workloads, and provide immediate feedbacks on improving teaching and learning effectiveness.

Further investigation of ECE students’ academic self-efficacy (ASE).

Both freshmen and senior students think “I am aware of the assignments that are due in the next week” is the most important item in academic self-efficacy (ASE), but senior ECE students rated “I doubt if I can make the effort to finish the module” as the second most important item in the ASE. Senior ECE students may think there are other skills needed to finish the “Research in Childhood” than effort. These may be time management skills and/or content knowledge. Therefore, it is worth noting this finding in order to investigate what other skills can help them learn better in the module.

Conclusion

The study aimed to develop an OBTL curriculum in early childhood education (ECE) to demonstrate exemplary cases of effective teaching and learning in the undergraduate ECE program. The project included continuous assessment, group presentation, self-learning, and individual assignment to assess students’ learning outcomes. A self-learning system was set up in e-learning for students to monitor their learning progress during the semester, including two online exercises and a review of learning outcomes. The presentation was evaluated by means of self-evaluation, peer evaluation, and lecturer evaluation. A pre-post study, dual-scaling analysis, and focus group interviews were conducted to understand students’ learning effectiveness in the study. The results indicated that the more learning outcomes students achieved, the higher the score they achieved. This implies that clear and well-stated learning outcomes can help students learn better. For learning effectiveness, academic self-efficacy was significantly improved by the end of the two courses. Students
showed higher-order cognitive ability to reflect on past experiences, and make personal choices based on management of time, goal, and priority setting. Finally, students rated “I am aware of the assignments that are due in next week” and “I believe it is possible for me to achieve good grades” as the most and the least important items respectively in the academic self-efficacy scale.

**References**


Ewell, P. (2006). *Dodridge, M., & Kassinopoulos, M. (2003). Assessment Davidson, R. A. (2002). Relationship of study approach and priority setting. Finally, students rated “I am aware of the assignments that are due in next week” and “I believe it is possible for me to achieve good grades” as the most and the least important items respectively in the academic self-efficacy scale.

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