Outcome Based Assessment for New Learning –

Piloting Human Development Using OBL Approach

Final Report

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1. Introduction

Outcome based learning (OBL) has been widely adopted in countries like Australia, United States and South Africa for some time. However, it has only been introduced into Hong Kong not long ago. In 2004, the University Grants Committee (UGC) published a document entitled "Hong Kong Higher Education: to make a difference, to move with the times". The document formulates a series of role statements for each of the higher education institutions and emphasizes that all institutions should "pursue the delivery of teaching at an internationally competitive level in all the taught programmes that are offered", and outcome based learning is introduced to improve and enhance student learning (Stone, 2005). In 2007, the Quality Assurance Council of the UGC published an Audit Manual in which it is stated that the UGC-funded institutions are engaged in two major initiatives, viz (1) to prepare for the 3-3-4 academic structure in 2012, and (2) to adopt an outcome based approach to student learning (University Grants Committee, 2008). It is envisaged that outcome based learning will exert great influence on higher education in Hong Kong in the years to come.

2. Outcome Based Learning

According to an advocate of outcome based learning, William Spady, outcome based learning "means clearly focusing and organizing everything in the education system around what is essential for all students to be able to do successfully at the end of their learning experiences. This means starting with a clear picture of what is important for students to be able to do, then organising the curriculum, instruction and assessment to make sure that learning ultimately happens" (1994, p.1). Spady (1994) also pointed out that the basic principle of outcome based learning is based on three premises:

- "All students can learn and succeed but not all in the same time or in the same way";
- "Successful learning promotes even more successful learning";
- "Schools (and teachers) control the conditions that determine whether or not students are successful in school learning".

(Spady, 1994, p.5)

In a similar fashion, Tucker (2004) defines outcome based learning as "a process that involves the restructuring of curriculum, assessment and reporting practices in education to reflect the achievement of high order learning and mastery rather than the accumulation of course credits". On the other hand, Willis and Kissane (1995) consider outcome based learning as "an educational process which is based on trying

to achieve certain specified outcomes in terms of individual student learning. Thus, having decided what are the key things students should understand and be able to do or the qualities they should develop, both structures and curricula are designed to achieve those capabilities or qualities" (p.1).

Although these definitions place emphasis on different aspects of the learning process, several characteristics among the definitions are in common. It is noticeable that all definitions are in agreement with that outcome based learning is a student-centered learning approach. Instead of focusing on the resources provided by teachers, the focus has shifted to the outcomes performed by students. Under outcome based learning approach, greater emphases are placed on students' roles in the learning process, alongside with curriculum and assessment originated from the students' perspectives. Another common feature is that the learning outcome is treated as the core belief among the definitions. Outcomes are "clear, observable demonstrations of student learning that occur after a significant set of learning experiences" (Spady & Marshall, 1994, p.20). During the course design, the learning outcomes need to explicitly state what the students will know, what they will be able to do and what they will achieve after the completion of a course. Furthermore, the definitions mentioned above emphasize that well-developed outcome based learning is composed of three major components: curriculum, teaching and learning activities, and assessment tasks. It is essential for these three components to link together and have an alignment in order to help students to achieve the learning outcomes.

3. Assessment in Outcome Based Learning

Assessment is a significant component in curriculum design, and there is no exception in outcome based learning approach. In outcome based learning, assessment is mainly used to measure students' achievement of the learning outcomes. Teachers need to identify and formulate the criteria used in assessment tasks and notify all students in advance before assessment happens (Butler, 2004). Since all students were expected to succeed, criterion-referenced assessment is more preferable than norm-referenced assessment in outcome based learning. With criterion-referenced assessment, concrete evidence on students' performance and achievement can be obtained without unnecessary comparison with others (Killen, 2007). Since each learning outcome in a course is unique and possesses different characteristics, there is no single assessment method that can fit all the learning outcomes. On the contrary, different assessment methods can be employed to target different learning objectives. Assessment methods exist in a variety of forms, in addition to traditional assessment methods, alternative assessments such as authentic assessment and self assessment are encouraged to be

adopted in outcome based learning. Authentic assessments "involve students in tasks that require the application of knowledge and skills in real-life situations." (Luongo-Orlando, 2003, p.7) When adapted in a classroom context, authentic assessment provides an irreplaceable learning experience for learners to apply their knowledge, skills and values in an integrated manner to perform a meaningful task (Malan, 2000). Self assessment is "any evaluative exercise conducted by development practitioners to assess the progress of a program they are designing and implementing toward expected outcomes, for purposes of detecting errors or barriers and making timely adjustments to maximize the achievement of results on the ground." (Rodriguez-Garcia, White, & World Bank, 2005, p.1) Self assessment provides opportunities to students for self-evaluation on a regular basis and observes the progress on their own. Instead of using a single assessment method, multiple assessment strategies can better meet students' needs and cater for individual differences (Towers, 1996).

Despite the important role of assessment in the learning process, assessment alone will not lead to any success of an outcome based learning implementation, an alignment among learning outcomes, curriculum and assessment is required instead (Furman, 1994; Biggs & Tang, 2007). In Biggs and Tang (2007)'s words, the learning activity in the curriculum needs to be activated in the teaching and assessment tasks in order to verify that the intended learning outcomes have been achieved. Without this alignment, the assessment results obtained will become unreliable and the inferences drawn with reference to the results will also be invalid (Killen, 2007). During the instructional planning stage, teachers first need to decide the outcomes that students are to achieve. After that, they need to design the course content with relevant teaching strategies and learning activities to assist students to accomplish the tasks in order to demonstrate those intended learning outcomes. Finally, teachers have to plan the assessment tasks to determine if students have achieved the outcomes (Killen, 2007).

4. Context of Learning in the Hong Kong Institute of Education

With the introduction of the new 3-3-5 academic structure in 2012, it is inevitable for the HKIEd to redesign the undergraduate curriculum to prepare for the changes and challenges brought by the new initiative. Following the roadmap laid down by the UGC, one of the strategies adopted by the HKIEd is "an outcome-based approach in curriculum design with integrated learning" (Hong Kong Institute of Education, 2009, p.14). The HKIEd has planned to promote outcome based learning through the means of "innovative curriculum design, the application of Information and Communication

Technology, new pedagogies and assessment" (Hong Kong Institute of Education, 2009, p.15).

The primary mission of the Hong Kong Institute of Education is to promote and support the strategic development of teacher education in Hong Kong, by preparing quality educators, supporting them in their lifelong learning, and leading in education innovation and reform. Moreover, through the 'Education-plus' concept, the HKIEd extends and strengthens key discipline areas in addition to our excellence in professional education studies. We prepare our students to become competent professionals who can integrate theory and practice, and who are intellectually active, socially caring, and globally aware. The graduates are committed to their personal and professional development and make a difference to the lives of students, the school, the teaching profession, and the society.

With these expectations in mind, the HKIEd devised a Learning Framework that enumerates the desired attributes that an ideal graduate should have achieved. These attributes are classified into four categories, they are (1) Character and Moral Responsibility, (2) Cultivation of Wisdom and Intellectual Engagement, (3) Competence and Professional Excellence and (4) Civic-mindedness and Social Responsibility. The desired attributes can be achieved with the accomplishment of the generic outcomes defined at the institutional level. Generic outcomes represent the kinds of skills, attitudes and dispositions achieved by the graduates as a result of successfully completing their studies at the HKIEd. The HKIEd expects its graduates to achieve the following generic outcomes: (1) Problem Solving, (2) Critical and Reflective Thinking, (3) Creative and Innovative Thinking, (4) Ethical Understanding and Decision Making, (5) Communication skills, (6) Social Interaction skills, (7) Global Perspective and Multi-cultural Competence. The acquaintance of these attributes is not restricted to formal learning activities; instead there are various kinds of opportunities available in the campus life, ranging from the university culture to co-curricular activities. In addition to the learning outcomes defined at the institutional level, desired learning outcomes also exist at the programme, subject and course levels of the Learning Framework. Students enrolled in different programmes (e.g. Certificate, Bachelor, and Postgraduate Diploma) or in different specialties (e.g. Primary, Secondary, and Early Childhood Education) are expected to achieve specific programme outcomes when they graduate. In the same way, students enrolled in programmes for the preparation of subjects teaching (e.g. Music, Visual Arts, English Language) are expected to accomplish subject outcomes related to the disciplines. At the lowest level of the Learning Framework, there are course outcomes that students

are expected to have acquired upon the completion of a course. It is observed that outcomes defined at various levels in the Learning Framework possess distinctive characteristics. Learning outcomes defined at the institutional, programme, and subject levels are usually abstract in nature and described in broader terms, and usually need a longer period of time for acquisition. On the other hand, learning outcomes defined at the course level are more concrete and expressed in specific terms, and it takes a relatively short period of time to acquire them (Killen, 2007). The learning outcomes at the course level are also called enabling outcomes, as they help students to accumulate the competencies throughout the programme in a progressive manner and the achievement of outcomes at the upper levels is the ultimate goal of the process. Learning outcomes at different levels are closely related to each other and share alignments among them (Biggs & Tang, 2007).

5. Piloting of Human Development using OBL Approach

As discussed in previous section, various learning outcomes are implanted at different levels of the Learning Framework, and students need to achieve these different learning outcomes progressively throughout the course of study. The long term goal of the Learning Framework is for students to acquire the generic competences and achieve the desired attributes of an ideal graduate. On the other hand, the short-term goal is the accomplishment of the course intended learning outcomes when students have completed the courses. The current project aims to evaluate the effectiveness of the outcome based learning approach. It attempts to find out upon the completion of a course, whether students can achieve the short-term goals and make progress in the accomplishment of the long-term goal. The study is focused on the following research questions: (1) Can the course help students to achieve the generic competences in the Learning Framework? (2) Can student achieve the course intended learning outcomes after they have finished the course? The design of the study will involve a course as pilot for the outcome based learning approach implementation.

5.1 Background of the Course

Human Development is selected as a pilot course for the OBL implementation. The course is a 3-credit unit core course for first year students of the Bachelor of Education (BEd) programmes under the Education Studies domain. The course provides opportunities for students to develop knowledge, attributes, and various generic skills that are essential to become professional teachers. It aims to help students to understand the nature of developmental change and stability in a learner over time. In addition, the course also targets at the provision of a sound theoretic background for classroom practice and addressing the roles of societal institutions on

the development of children and adolescents. When students have better understanding of child and adolescent development, they can reflect critically in handling important pedagogical issues and develop their professional practices. The teaching and learning activities of the course includes mass lecture, tutorial, self-directed studies and on-line learning. For the CILOs of the course, please refer to Part 6, Implementation of OBL Approach in the Human Development course, p.10 of this document.

5.2 Assessment of the Course

The assessment of the course includes (1) the Child Study, (2) examination, and (3) tutorial preparation and participation. For each tutorial, students are expected to participate in the in-class discussion on the questions set by the lecturers. Students are also required to attend an examination at the end of the course. The major assessment task in the course is the Child Study. Though this assignment had been adopted before, it has been invested with new meaning and focus in the context of the OBL approach to teaching and learning. The Child Study has employed formative, authentic and self-evaluation as the assessment methods. The Child Study provides an opportunity for students to study the cognitive development of a child and investigate its relationship to classroom learning. Learning occurs through the student participation in the activities and processes of the assessment task (Formative assessment). Through the Child Study, students learnt to link the theory-based approach with the practical issues related to the nature and characteristics of the learners (Authentic assessment). The Child Study assignment also provided a chance to assess students' acquisition of the generic competences. When students submit the Child Study Report, they need to complete the Student Self Evaluation Form to evaluate the works on their own (Self-assessment). Through the assessment process, the students became more aware of the different purposes and functions of the assessment task. At the end, the Child Study assignment was assessed by the lecturers using the Assessment Cover Sheet which is a rubric designed for assessment. The rubric indicated different levels of achievement by the students and it also set out the criteria for grading. A copy of the Assessment Cover Sheet and Student Self Evaluation form can be found in Appendices I and II.

5.3 Reasons for the selection of the Course

There were good reasons for the selection of Human Development as a pilot course for OBL approach implementation. Firstly, a large number of staff was involved. Altogether there were seven academic staff that were responsible for the teaching of the course. With more staff's participation, it helped increase the awareness of

outcome based learning among the staff and facilitated the development of an outcome based learning culture in the Department. The colleagues involved in the pilot implementation would also be able to apply the experience gained to other courses. In addition, there were a variety of assessment methods adopted in the course which included the authentic assessment and self assessment. With different kinds of assessment methods employed in the pilot course, the experience gained will shed light on the possibility to adopt alternative assessments for outcome based learning implementation.

5.4 Four Basic Principles of OBL

Based on the three premises of OBL, Spady (1993) further develop four basic principles of OBL that provide guidance for the implementation of outcome based learning approach. These four basic principles and their characteristics are described below:

- "Clarity of Focus - Teacher must clearly define the course outcomes at the beginning and focus on them throughout the course. They have the responsibilities to tell students what the outcome is, to illustrate it, to focus the instruction on it, to teach and assess it clearly".
- "Design Down - The curriculum design and the learning activities are all linked to the outcomes acquired at the end of the course".
- "High Expectations - A fundamental aim of outcome based education is for all students to succeed, all students are expected to achieve significant outcomes of high standards".
- "Expanded Opportunities - Increasing the number of ways and the number of times for students to learn successfully by means of various practical supports".

  (Spady, 1993, p.13)

6. Implementation of OBL Approach in the Human Development course

To restructure the curriculum design of Human Development from a traditional approach into an outcome based learning approach, a number of transformation tasks need to be done. The curriculum is redesigned mainly with reference to the framework outlined in Spady's four basic principles and the details are discussed below.

6.1 Clarity of Focus

The course outline of Human Development has been reviewed and rewritten with the use of the OBL Course Outline Template designed by the Institute. In the new course

outline, the focus was placed on the Course Intended Learning Outcomes (CILOs). There were six CILOs in the pilot course, they included:

$CILO_1$ Identify the empirical characteristics of the sequence of developmental periods.

$CILO_2$ Identify and critique relevant theoretical explanations for developmental progress.

$CILO_3$ Identify and explain key factors influencing human development

$CILO_4$ Analyze individual and contextual factors influencing the development of children and adolescents.

$CILO_5$ Adapt and apply appropriate techniques to systematically collect information and translate assessment results into empirically-based decisions.

$CILO_6$ Reflect critically on educational practices in light of contextual factors and developmental theories and principles.

The outcomes have been explicitly stated with the use of action verbs from Structure of Observed Learning Outcomes (SOLO) and Bloom's taxonomies (Biggs & Tang, 2007), and an alignment of the outcomes with teaching and learning activities and assessment tasks has been expressed clearly (See Appendices III and IV). The course outline was distributed to the students at the first meeting of the course while the lecturers explained the CILOs in relation to the OBL approach to the students.

6.2 Design Down

Curriculum in OBL has a similar function as the house plan in construction, and the development of course outline needs to be done before the planning of other components. During the course outline development, the formulation of the CILOs was the first step to start with. Once the CILOs have been established, the design of teaching and learning activities and assessment tasks were followed with reference to the CILOs. Modifications in the teaching and learning activities and the assessment tasks were made in order to reflect the changes in the curriculum design from traditional approach to an OBL one, and emphasis was placed on how the teaching and learning activities could help students acquire the outcomes and how the assessment tasks could measure the outcomes achievement. For example, the Child Study assessment form was adopted for lecturers to evaluate students' work and for students' self evaluation purposes. Before the implementation of outcome based learning, the design of the form was simple and it only provided the categories in which the Child Study would be assessed and the possible grades available, without any detailed

information for the grading criteria. In the implementation of OBL, the evaluation form was redesigned and developed into a rubric. The rubric provided detailed description and requirement of the grading in each category and allowed one to differentiate one grade from another without any ambiguity. The rubric not only provided a clear and concise assessment guideline for lecturers to grade the assignment, it also gave students a better idea on the current status of their learning process and provided feedback to them on how to improve their work in future.

6.3 High Expectations

Students enrolled in the pilot course were all expected to achieve high standards of performance. Assessment tasks were designed to identify the levels of understanding among students, and this could be reflected in the rubric of the assessment tasks. The rubric stated clearly the expectation of students' performance with reference to the learning outcomes, and different levels of achievement could be identified according to the criteria described in the rubric. Helping students to achieve high standards is closely related to Spady's (1994) premise that successful learning promotes even more successful learning. Successful learning experience has positive effect on students, and it can reinforce their learning, build their confidence and encourage them to accept more challenges (Killen, 2007).

6.4 ***Expanded Opportunities***

In the pilot course, different kinds of teaching and learning activities have been employed, including mass lecture, tutorial, self-directed studies and online learning. At the same time, different forms of assessment methods have been used in the course, ranging from summative, formative, and self to authentic assessments. All these measures were desirable as they increased the learning opportunities for students and assisted them to achieve the learning outcomes. The idea of expanded opportunities is significant in outcome based learning, as it is stated in the premise that not every learner can learn the same thing in the same way or in the same time (Spady, 1994). Individual difference among the learners must be recognized and respected. Consideration and incorporation of such difference in the curriculum design is necessary. For students who have not reached the desired level of understanding, expanded learning opportunities give them the chance for further learning (Killen, 2007).

7. Evaluation of the effectiveness of the OBL approach

The aim of the study was to evaluate the effectiveness of the outcome based learning approach in the pilot course. Although the effectiveness cannot be measured directly,

it can be reflected indirectly from (1) students' achievement of the generic competencies and (2) students' accomplishment of the course intended learning outcomes upon completion of the course. Questionnaire and focus group interviews have been adopted in the study to collect students' opinions on the outcome based learning approach and the impact on their learning.

7.1. Questionnaire

The questionnaire consisted of two sections. The first section focused on the effect of the Child Study as an assessment task and its effect on the achievement of the generic skills. The Child Study was unique in nature and was rarely found in other courses of the same discipline. It provided a practical opportunity for students to apply what they have learned to real life situation, with a linkage of the theoretical knowledge and pedagogical application. The first part of the questionnaire was designed to examine students' perception of the acquisition of the generic competencies as the institutional learning outcomes after the completion of Child Study. There were twenty eight questions and they were constructed with reference to the seven generic competencies stated in the institutional learning framework. Each generic competency was subsumed under four questions. Reverse wording was adopted in one out of the four questions for each generic competency to minimize the response set effect.

The second section of the questionnaire focused on the overall course evaluation which was used to measure students' perception of their achievement of CILOs at the end of the course. There are eight questions in this section. The first six questions were corresponding to each individual CILO in terms of the content. In addition, there were two questions; one tackled the students' understanding of children and adolescent development, and the other one being an overall evaluation of the CILOs.

For both sections of the questionnaire, students were requested to indicate the degree to which they agreed or disagreed with the statements in a four-point Likert scale, one (1) represents "strongly disagree" and four (4) represents "strongly agree". Higher score indicated a better achievement of generic competencies or CILOs and vice versa, except for items in reverse wording. A copy of the questionnaire can be found in Appendix V. The collected questionnaire data were entered into the Statistical Package for the Social Sciences (SPSS) version 16 for statistical analysis. For questions in reverse wording, the scores have been rescaled during the analysis.

7.2. Focus Group Interview

After the questionnaires being collected, focus group interviews were conducted to collect additional data to supplement the questionnaire data. Participants of focus group interview were recruited on voluntary basis. Tutors went to the tutorials to invite students to participate a focus group interview. Eight students were involved in two sessions of focus group interview that were conducted in semi-structured manner. A list of interview questions can be found in Appendix VI. Digital voice recorder has been used to record the interview sessions and, with key points being transcribed into written form for analysis. Using a triangulation research design not only complements the limitation and drawback of using a single method, but also allows us to obtain a more complete and comprehensive picture of students' perception on their achievement of CILOs and generic competencies in the pilot course.

8. Results

The response of the Seven Generic Skills and the CILOS are, 84.7% and 78.8% respectively, with a total number of 548 students participated in the final examination of "Human Development".

8.1 Achievement of Generic Competencies

After the students have finished the Child Study, they were expected to have improved in a number of generic competencies. Twenty eight questions around the achievement of the seven generic competencies in the institutional learning framework were constructed for the questionnaire. The mean and standard deviation for each generic competency were calculated from the scores on the questions which belonged to the generic competency.

Table 1: Means and Standard Deviations of the Seven Generic Skills

Generic Competency	Mean	Std. Deviation	N
Ethical decision making	3.21	.38	464
Global perspective	2.87	.39	464
Communication skills	3.15	.39	464
Critical thinking	3.13	.36	464
Social Interaction skills	3.17	.39	464
Creativity	2.77	.40	464
Problem Solving	3.11	.37	464

The results in Table 1 above showed that high mean scores were found in Ethical Decision Making (M=3.21, SD=0.38), Social Interaction Skills (M=3.17, SD=0.39), and Communication skills (M=3.15, SD=0.39). On the other hand, relatively low mean scores were found in Global Perspective (M=2.87, SD=0.39) and Creativity (M=2.77, SD=0.40). Generic competencies with neither high nor low scores included Problem Solving (M=3.11, SD=0.37) and Critical Thinking (M=3.13, SD=0.36).

Table 2: ANOVA Results for the Seven Generic Skills

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Generic Competency	Greenhouse-Geisser	80.84	5.56	14.55	162.84	.00
Error	Greenhouse-Geisser	229.86	2573	.09		

Table 3: Post hoc analysis of the Seven Generic Skills

Generic Competency	1	2	3
Ethical decision making	3.21		
Problem Solving		3.11	
Communication skills		3.15	
Critical thinking		3.13	
Social Interaction skills		3.17	
Creativity			2.77
Global Perspective			2.87

A one-way within-subjects analysis of variance (ANOVA) was conducted among the means of the generic competencies. Significant differences were found at the p<0.001 level [F(5.558, 2573)= 162.84, p<0.001]. A post hoc analysis was done to find out the generic competency with a mean that was significantly different from each other. The results showed that there were 3 different groups among 7 generic competencies. Generic skill of "Ethical decision making" was in Group 1, the mean of Group 2 was significantly higher than the other six generic skills. Five generic skills, "Problem solving", "Communication skills", "Critical thinking", and "Social interaction skills, were in Group 2, the means of 5 generic skills were significantly higher than other two generic skills, "Creativity" and "Global perspective", in Group 3.

8.2 Accomplishment of Course Intended Learning Outcomes

Part two of the questionnaire was related to the accomplishment of the Course Intended Learning Outcomes (CILOs).

Table 4: Mean and Standard Deviation of the CILOs

Questions	Mean	Std. Deviation	N
Q1: After studying the course, I know the different stages of human development and the physical, psychological and social characteristics found in each of the respective stages.	3.20	.45	432
Q2: After studying the course, I feel I am familiar with the theories used to explain the phenomenon during the developmental progress.	3.05	.46	432
Q3: After studying the course, I feel I can identify and explain the key factors which influence human development.	3.03	.44	432
Q4: After studying the course, I feel I am able to analyze individual children and the environmental factors which influence their development.	3.10	.49	432
Q5: After studying the course, I feel I have learnt how to adapt and apply appropriate techniques to design and conduct an empirical study on children.	3.07	.50	432
Q6: After studying the course, I feel I am able to reflect critically on educational practices by integrating theories with contextual factors.	3.06	.51	432
Q7: After studying the course, I have gained a good understanding of how children and adolescent develop.	3.28	.52	432
Q8: Overall, I feel I have achieved the above six CILOs well.	3.05	.44	432

Results from Table 3 above showed that all questions in this section had a mean score of above 3. High mean scores were found in Q7 (M=3.28, SD=0.52), Q1 (M=3.20,

SD=0.45) and Q4 (*M*=3.10, *SD*=0.49). On the other hand, relatively low mean scores were found in Q2 (*M*=3.05, *SD*=0.46), Q8 (*M*=3.05, *SD*=0.44) and Q3 (*M*=3.03, *SD*=0.44). Questions with medium mean scores included Q5 (*M*=3.07, *SD*=0.50) and Q6 (*M*=3.06, *SD*=0.51).

Table 5: ANOVA Results for the CILOs

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
CILOs	Greenhouse-Geisser	23.44	6.55	3.58	24.96	.00
Error	Greenhouse-Geisser	404.81	2824	.14		

Table 6: Post hoc analysis of the CILOs

Questions	1	2
Q1	3.20	
Q7	3.28	
Q2		3.05
Q3		3.03
Q4		3.10
Q5		3.07
Q6		3.06
Q8		3.05

A one-way within-subjects analysis of variance (ANOVA) with a Greenhouse-Geisser correction was conducted among the means of the questions in this section, and it was found that there were significant differences at the $p<0.001$ level [$F(6.553, 2824)= 24.96$, $p<0.001$]. A post hoc analysis was done to find out the CILOs with a mean that was significantly different from each other. The results showed that there were 2 different groups among 8 CILOs. CILOs of "Q1" & "Q7" were in Group 1, the means of Group 1's CILOs were significantly higher than the other six CILOs in Group 2..

9. Discussion

9.1 Achievement of Generic Competencies

Results in the questionnaire reflected that among the seven generic competencies, most students believed that they had better achievement in Ethical Decision Making among the seven generic competencies. They were in agreement with the idea that they had learned to respect the well-being of the children whom they studied and to protect their privacy. It was believed that the consent form in the Child Study had played an important role and great contribution in this respect. In the Child Study activity, students had to seek the consent of parents / guardians in order to conduct the study and they were required to include the consent forms in their reports. It was also stated in the Child Study Guideline that in the Child Study the children's identities must not be revealed in order to protect their privacy. The students on the course were first year students who had limited experience in conducting psychological studies and were not familiar with the ethical considerations in research. All these ethical requirements in the Child Study activity were new to them. One student expressed in the interview that before conducting the Child Study, he was not aware of the importance of the ethical decision-making. When he watched the videos in the internet about child development, he found that children's identities were normally not concealed, and he thought that it was a normal practice in research. He had not considered the ethical issues seriously until he started doing the Child Study. The activity had drawn students' attention and increased their awareness of the ethical consideration and requirement in the study of children.

Other generic competencies that received high scores among the students were Social Interaction Skills and Communication Skills. This could be attributed to the fact that throughout the study, there were plenty of chances for the students to communicate and interact with different people. Before the study, students needed to find suitable subjects for the experiment. They had to approach their relatives, tutorial class pupils or friends and asked for help. Some students even have sought assistance from the lecturers in order to identify a suitable subject. Students had to contact different people proactively and explained the study in detail, including the aims, objectives, and procedure of the experiment to them. In the case where the parents had queries, the students had the responsibility to answer them and resolve any doubt arouse. The students also needed to establish good social relationship with the parents, so that they felt satisfied and thus allowed their children to participate in the study. Students had shared their experience in the interview that good communication was essential in the Child Study among various factors. This was especially true when the parents were reluctant to allow their children to join the experiment. Under this circumstance, students had to explain the study to the satisfaction of the parents. They also informed

the parents that they were following the code of ethics in the experiment in order to gain the parents' confidence.

The students also needed to build good social relationship with children before the study as it is difficult to conduct the experiment unless trusted relationship has been established. In the focus group interview, students pointed out that they needed to make children feel relaxed before they were willing to answer questions. During the experiment, students had to interact and communicate with the children frequently. They also needed to draw the children's interest and encouraged them to complete the tasks required.

With regard to communication with children, it was quite a completely different matter. The students had to use appropriate communication skills and techniques according to the tasks they faced. For example, when interacting with children, students needed to show patience and used simple words. They also had to avoid using abstract concepts or speaking too fast. One student made the remark in the interview that she realized that questioning techniques were very important in the experiment as children usually had difficulties in understanding conceptual questions. Simple questions had to be used instead.

When children's responses were different from expected or they did not follow the instruction, the students had to exercise flexibility in order to handle these situations, otherwise the experiment could not proceed. One student had expressed in the interview that despite the amount of preparation work done before the study, one still had to make quick response and adjusted the strategies according to the situations. It was undeniable that the Child Study has provided valuable experience and opportunities for students to strengthen the communication and social interaction skills. The students felt that competence in communication and social interaction skills played an important role in the success of the Child Study.

On the other hand, it was noted that students did not endorse well that they had achieved highly in creativity when compared with other generic competencies. The reason may be attributed to the nature of the assessment task and the restrictions imposed on the students. There were two topics in the Child Study for students to choose, viz. the Conservation of Substance and the Oscillation of a Pendulum. After students have decided the topic of investigation, they had to follow the procedure adopted by Piaget and his colleagues in conducting the experiment. Restrictions have been imposed in a number of places in the study. For instance, students were

recommended to use original Piaget's text as the primary reference for their investigation. Secondary literature could only serve the purpose of augmentation. Some students expressed in the interview that only focusing on Piaget's theory in the Child Study was inadequate. They argued that Piaget's theory was not the only theory about child development as and it was too narrow to only focus on the cognitive development in children. They were in doubt as why they were restricted to one theory and could not refer to other theories in the study. The restriction in terms of methodology and questioning method left little opportunity for creative thinking. The design of the study did not require students to construct new experiment. The experimental design and procedure had been fixed. Students were not expected to make any change. Therefore, it is understandable why students thought the child study did not facilitate the development of creativity.

Moreover, the structure, format and presentation of the report are standardized in the Child Study guideline, with limited flexibility for change. The students expressed in the interview that the guideline had imposed too many restrictions on them in writing the reports. During the interview, students mentioned that the word limitation as stated in the Child Study guideline had restricted their full expression of thought. Although there were a number of ideas that they wanted to include in the report, there was not enough space for them to do so. Some of them were even forced to drop their ideas in the reports in order to avoid exceeding the word limit. Their overall impression on the guideline was it was too rigid and they had to meet every requirement stated in the guideline with no exception.

Another generic competency which students believed that they have not achieved well was the Global Perspective. Some students expressed that they did not observe any signs of Global Perspective in the Child Study activity. However, the Child Study was basically originated from Piaget's theory with the focus on the cognitive development in children at pre-operational and operational stages. The students were not required to consider the issue from a global perspective, and they did not have any opportunity to explore the cultural influence or difference existed between Eastern and Western children in the study. Therefore, it was not surprising that students thought the study did not have much contribution to the development of this generic competency. Nevertheless, it did not represent that cultural influence has not been covered in the course. On the contrary, there was an extensive discussion on Vygotsky's socio-cultural theory and its influence on child development in the course. If questions on global perspective were rewritten and extended the coverage to include

other learning activities of the course, it was likely that the results would be quite different.

9.2 Accomplishment of Course Intended Learning Outcomes

All questions in the second part of the questionnaire had the mean score of above 3. Since the first six questions corresponded to the six CILOs in the course, the result demonstrated that the majority of students had put high ratings on the accomplishment of the six CILOs.

After ranking the means of the questions, it can be noted that Questions 1 and 7 had higher scores among the questions. Question 1 represented CILO 1 *(Identify the empirical characteristics of the sequence of developmental periods)* in the course, and it was about the understanding of different stages in human development and their characteristics. Question 7 was related to the understanding of children and adolescent development. The entire course focused on the human development at various stages, from infancy, early childhood, middle childhood to adolescence. Students' high scores on these two questions reflected that they understood the core concepts related to human development and could achieve these CILOs without any difficulties.

At the same time, lower scores were found in Questions 2 and 3, which corresponded to CILOs 2 *(Identify and critique relevant theoretical explanations for developmental progress)* and 3 *(Identify and explain key factors influencing human development)* respectively. These two CILOs were typical examples of theoretical knowledge application in the course. The results suggested that some students were less confident in the application of knowledge learnt in the course. During the interview, students pointed out that there were not many chances for discussion on the practical use of taught knowledge in the educational context in the course, with the exception of tutorial discussion. Tutorials provided good opportunities for students to apply the knowledge in the scenarios and had reflections on their study. However, some students reported that when they answered the tutorial questions, they did not know how to apply the knowledge in a pedagogical environment nor provide examples for illustration. In addition, some students thought that there was a lack of motivation to participate in the tutorial discussion. There were several reasons behind and one of them was related to the classroom environment. The class size was small but the seating arrangement did not facilitate discussion. Another reason was due to inadequate time for discussion. Within a 50 minute tutorial, students did not have enough time to have a full range discussion on the topics covered. On the lecturers'

side, they did not have time to provide feedback to students nor to answer their questions.

Question 4 was related to CILO 4 *(Analyze within child and contextual factors influencing the development of students' individual differences)*. It was also an application of theoretical knowledge among other questions in the questionnaire. Besides tutorial, the Child Study was another learning activity in the course that provided chance for the application of theoretical knowledge. Unlike Questions 2 and 3, students gave high ratings to this question. The result indicated that the Child Study has served its purpose and helped students apply the theoretical knowledge. In the interview, students mentioned that the most difficult CILO to achieve was CILO 6 *(Reflect critically on educational practices in light of contextual factors and developmental theories and principles)*, as they did not know how to reflect critically on educational practices. This finding was again related to the difficulties in theoretical knowledge application.

The mean for Question 8, in which the students were asked if they had achieved all six CILOs, was 3.05, which was the second lowest score among the questions. It provided indirect evidence that not all students were of the opinion that they have achieved the six CILOs successfully at the end of the course. The CILOs with lower ratings were usually the ones related to the application of the theoretical knowledge to educational practices. This may have reflected the fact that the students did have difficulties in this respect.

Although the main focus of the course design was placed on outcomes based learning, the students were not fully aware of the OBL approach throughout the course. They shared the view that they did not notice any differences between this course and other courses in terms of course design. One of the core ideas in OBL was development of CILOs. However, in the discussion about CILOs, the students made the remarks that the CILO had provided a convenient format in the design and delivery of the course and yet there was little impact on the quality of learning. Students expressed that they did not have a deep understanding of the CILOs. Their impression related to them was that they were introduced in the first meeting of the course, but the CILOs were not mentioned again for the rest of the course. Students only realized the existence of the CILOs when they were mentioned again in the course evaluation and in the focus group interview.

Students believed that the Institute should help them know the influence of CILOs on their learning, and how they could establish connections between the CILOs and their study. Students suggested that at the end of every lecture, the lecturers could recapitulate the topics covered in the lecture and the CILOs they had achieved. This not only drew students' attention to the learning outcomes of the course, but also provided reflection opportunities to students, and allowed them to reflect on the achievement of the CILOs after the class. The reminder at the end of each lecture could also provide chances for students to reflect on the achievement in a progressive manner throughout the course. In case students found that they had not achieved the CILOs, they could study the course materials again in order to achieve them at a later stage. If students were informed about the achievement of CILOs only at the end of the course, there would not be enough time for them to do remedial work.

9.3 The Rubric

In addition to the generic competencies and CILOs, students were asked in the interview about their opinions on the Child Study rubric. Besides the assessment purposes, some students mentioned that the rubric functioned well as a checklist for them. Upon completion of the Child Study report, they checked the works against the rubric to see if they had met the requirements as stated in the rubric.

The students thought sections 1 to 5 of the assessment rubric were clearly written and they understood the requirements in these sections without difficulties. On the other hand, students felt that the criteria for the section "Observance of Conventions" were unclear and they suggested that lecturers could spend some time to explain the requirement of the rubric in greater details to them.

Some students expressed that the design of the rubric was too general and it was not specifically for the Child Study. They believed the same rubric could be applicable to assignments in other courses. Students suggested having a clearer and more precise description of the rubric which should focus more on different aspects of the Child Study.

10. Conclusions

The pilot study of OBL in Human Development has provided practical experience on the implementation of OBL to the teaching staff of the course. It has portrayed the details of the OBL course design, which included the development of the CILOs, the construction of an alignment between the CILOs, the teaching and learning activities, and the development of an assessment rubric. The experience gained would not only

be beneficial to the staff who had taught the pilot course but it will also shed light on the OBL approach for other colleagues in the Department who are enthusiastic in the adoption of this approach.

The study has also helped us gain a better understanding of the students' views on OBL, which encompassed their perception and expectation on OBL, their achievement of generic competencies and the CILOs at the end of the course. The results of the study have indicated that students' understanding of OBL was inadequate and not all students have achieved the six CILOs after they have completed the course. In order to achieve the ideal student-oriented approach in OBL, more consideration should be taken on students' view on OBL. More explanation on OBL approach and the CILOs can be provided to the students.

In addition, further improvements on the design of the learning activities and assessment tasks will be needed. The study has shown that meaningful tutorial discussion and appropriate assessment tasks were the prominent learning activities in the course that provided opportunities for students to apply theoretical knowledge to real life educational practices. The contribution of these learning activities in helping students to achieve the generic competencies and CILOs should not be overlooked.

All in all, it is envisaged that a successful implementation of the OBL approach to teaching and learning will rest on the joined efforts of the students and the teaching staff.

11. References

Biggs, J. B., & Tang, C. S. (2007). *Teaching for quality learning at university: What the student does* (3rd ed.). Maidenhead: McGraw-Hill/Society for Research into Higher Education & Open University Press.

Butler, M. (2004). *Outcomes based/ Outcomes focused education overview*. Retrieved July 1, 2010, from http://www.kfshrc.edu.sa/saudization/files/Outcomes%20Based%20Education.doc.

Furman, G. C. (1994). Outcome-based education and accountability. *Education and Urban Society*, *26*(4), 417-437.

Hong Kong Institute of Education. (2009). *Planning for the future, making a difference: Strategic plan 2009-2012 and beyond*. Hong Kong: Hong Kong Institute of Education.

Killen, R. (2007). *Effective teaching strategies: Lessons from research and practice* (4th ed.). South Melbourne, Vic.: Thomson Social Science Press.

Luongo-Orlando, K. (2003). *Authentic assessment :Designing performance-based tasks*. Markham, Ont.: Pembroke Publishers.

Malan, S.P.T. (2000). The 'new paradigm' of outcomes based education in perspective', *Journal of Family Ecology and Consumer Services*, *28*, 22-28.

Rodriguez-Garcia, R., White, E. M., & World Bank. (2005). *Self-assessment in managing for results: Conducting self-assessment for development practitioners*. World Bank working paper, no. 41. Washington, DC: World Bank.

Spady, W., & Marshall, K. (1994). Light, not heat, on OBE. *The American School Board Journal*, *181*(11), 29-33.

Spady, W. G. (1993). *Outcome based education*. Belconnen, A.C.T.: Australian Curriculum Studies Association.

Spady, W. G. (1994). *Outcome-based education: Critical issues and answers*. Arlington, Va.: American Association of School Administrators.

Stone, M. V. (2005, December). *Opening remark*. Paper presented at the Symposium on Outcome-based Approach to Teaching, Learning and Assessment in Higher Education: International Perspectives, Hong Kong Polytechnic University. December. Retrieved July 1, 2010, from http://www.ugc.edu.hk/eng/ugc/publication/speech/2005/sp171205.htm.

Towers, J. M. (1996). An elementary school principal's experience with implementing an outcome- based curriculum. *Catalyst for Change*, *25*(2), 19-23.

Tucker, B. (2004). *Literature review: Outcomes-focused education in universities.* Retrieved October 19, 2004, from http://lsn.curtin.edu.au/outcomes/docs/LitReview.pdf.

University Grants Committee. (2008). *Quality Assurance Council: audit manual.* Hong Kong: Quality Assurance Council.

Willis, S. & Kissane, B. (1995). *Outcome-based education: A review of the literature.* Perth, WA: EDWA.

Appendix I - Child Study – Assessment Cover Sheet

Human Development (EPC1137) Semester I, 2010-2011, 4-Year Full Time BEd.

Child Study – Assessment Cover Sheet

TO BE FILLED IN BY STUDENT

Student Name: _____ **Student No.:** _____ **Group No.:** _____ **Name of Tutor:** _____ **Date submitted(yy/mm/dd):** _____

Circle the appropriate task: **Conservation of Substance** **The Oscillation of a Pendulum**

Student Declaration: Except where I have otherwise indicated by appropriate referencing, this assignment is entirely my own written work and has not been used for any other assessment. I have implemented the relevant HKIEd Code of Ethics and have the informed consent of the child's legal guardian.

STUDENT'S SIGNATURE: _____

TO BE FILLED IN BY TUTOR

Criterion	Rating				
	F	D	C	B	A
1. Theoretical Background	□ Demonstrates little understanding of the theoretical issues surrounding the chosen topic	□ Demonstrates partial understanding of the theoretical issues surrounding the chosen topic	□ Demonstrates general grasp of the theoretical issues surrounding the chosen topic	□ Demonstrates a sound, but uncritical understanding of the theoretical issues surrounding the chosen topic	□ Demonstrates a high level of judgment, interpretation, synthesis and critical thinking on the theoretical issues surrounding the chosen topic
2. Data Collection	□ The methods, equipment, process and procedures of data collection are unclear and with errors	□ The methods, equipment, process and procedures of data collection are partially presented	□ The methods, equipment, process and procedures of data collection are presented, but with some errors	□ The methods, equipment, process and procedures of data collection are generally clearly presented	□ The methods, equipment, process and procedures of data collection are clearly and systematically presented, with appropriate and complete details
3. Results	□ Presents an irrelevant version of the protocol	□ Presents an unedited version of the protocol	□ Presents an edited version of the protocol	□ Presents a well-edited protocol	□ The protocol is well-edited with high precision and accuracy
4. Interpretation of Results and Conclusion	□ There is no link between theories and analysis of the case	□ There is a weak link between theories and analysis of the case	□ Superficial link between the theories and the analysis of the case	□ There is an appropriate link between theories and analysis of the case	□ There is a clear, accurate and appropriate link between theories and analysis of the case
5. Structure	□ The material is poorly organized	□ An attempt has been made to organize the material but has not been effective	□ The material is mainly organized	□ The material is logically organized	□ The material is superbly organized
6. Written Expression	□ There are major and frequent mistakes in written expression	□ There are major mistakes in written expression	□ The language is reasonably fluent but has some grammatical weakness	□ The work is fluently written	□ The work is fluently written, showing high level of language proficiency
7. Observance of Conventions	□ The work is poorly documented	□ The work is weakly documented	□ An attempt has been made to observe the conventions but with error	□ The work is correctly and clearly documented	□ The work is well-documented with high accuracy and clarity

Comments: _____

TO BE FILLED IN BY STUDENT

Student Name: _____ **Student No.:** _____ **Group No.:** _____ **Name of Tutor:** _____ **Date submitted(yy/mm/dd):** _____

Circle the appropriate task: **Conservation of Substance** **The Oscillation of a Pendulum**

Student Declaration: Except where I have otherwise indicated by appropriate referencing, this assignment is entirely my own written work and has not been used for any other assessment. I have implemented the relevant HKIEd Code of Ethics and have the informed consent of the child's legal guardian.

STUDENT'S SIGNATURE: _____

TO BE FILLED IN BY TUTOR

Criterion	Rating				
	F	D	C	B	A

Grade: _____ **Marker:** _____ **Signature:** _____

Appendix II - Child Study –Student Self Evaluation

Human Development (EPC1137) Semester I, 2010-2011, 4-Year Full Time BEd.

Child Study –Student Self Evaluation

(Please attach this as the last page of your Child Study assignment.)

Student Name: _____ **Student Number:** _____ **Group Number:** _____

Please tick the appropriate boxes to indicate where you have attended to each Child Study requirement:

- ☐ Conservation of Substance
- ☐ The Oscillation of a Pendulum
- ☐ Cover Sheet
- ☐ Signed Declaration
- ☐ Photograph
- ☐ Other Illustration
- ☐ Abstract
- ☐ Reference list
- ☐ Signed consent form

Criterion	Rating				
	F	D	C	B	A
8. Theoretical Background	☐ Demonstrates little understanding of the theoretical issues surrounding the chosen topic	☐ Demonstrates partial understanding of the theoretical issues surrounding the chosen topic	☐ Demonstrates general grasp of the theoretical issues surrounding the chosen topic	☐ Demonstrates a sound, but uncritical understanding of the theoretical issues surrounding the chosen topic	☐ Demonstrates a high level of judgment, interpretation, synthesis and critical thinking on the theoretical issues surrounding the chosen topic
9. Data Collection	☐ The methods, equipment, process and procedures of data collection are unclear and with errors	☐ The methods, equipment, process and procedures of data collection are partially presented	☐ The methods, equipment, process and procedures of data collection are presented, but with some errors	☐ The methods, equipment, process and procedures of data collection are generally clearly presented	☐ The methods, equipment, process and procedures of data collection are clearly and systematically presented, with appropriate and complete details

Student Name: _____ **Student Number:** _____ **Group Number:** _____

Please tick the appropriate boxes to indicate where you have attended to each Child Study requirement:

- ☐ Conservation of Substance
- ☐ The Oscillation of a Pendulum
- ☐ Cover Sheet
- ☐ Signed Declaration
- ☐ Photograph
- ☐ Other Illustration
- ☐ Abstract
- ☐ Reference list
- ☐ Signed consent form

Criterion	Rating				
	F	**D**	**C**	**B**	**A**
10. Results	☐ Presents an irrelevant version of the protocol	☐ Presents an unedited version of the protocol	☐ Presents an edited version of the protocol	☐ Presents a well-edited protocol	☐ The protocol is well-edited with high precision and accuracy
11. Interpretation of Results and Conclusion	☐ There is no link between theories and analysis of the case	☐ There is a weak link between theories and analysis of the case	☐ Superficial link between the theories and the analysis of the case	☐ There is an appropriate link between theories and analysis of the case	☐ There is a clear, accurate and appropriate link between theories and analysis of the case
12. Structure	☐ The material is poorly organized	☐ An attempt has been made to organize the material but has not been effective	☐ The material is mainly organized	☐ The material is logically organized	☐ The material is superbly organized
13. Written Expression	☐ There are major and frequent mistakes in written expression	☐ There are major mistakes in written expression	☐ The language is reasonably fluent but has some grammatical weakness	☐ The work is fluently written	☐ The work is fluently written, showing high level of language proficiency
14. Observance of Conventions	☐ The work is poorly documented	☐ The work is weakly documented	☐ An attempt has been made to observe the conventions but with error	☐ The work is correctly and clearly documented	☐ The work is well-documented with high accuracy and clarity

Comments: _____

_____ Grade: _____

Please complete your own evaluation of your Child Study using this self evaluation sheet and affix it as the *last page* of your Child Study assignment.

Appendix III - Alignment of Course Content, CILOs and Teaching & Learning Activities

Course Content	CILOs	Suggested Teaching & Learning Activities
The nature of human development	$CILO_1$	Mass lecture Tutorials Self-Directed Studies/On-line Learning
Stages of development	$CILO_1$	Mass lecture Tutorials Self-Directed Studies/On-line Learning
Approaches to studying and explaining human development	$CILO_2$, $CILO_3$	Mass lecture Tutorials Self-Directed Studies/On-line Learning
Physical development	$CILO_2$, $CILO_3$, $CILO_4$, $CILO_5$, $CILO_6$	Mass lecture Tutorials Self-Directed Studies/On-line Learning
Cognitive development	$CILO_2$, $CILO_3$, $CILO_4$, $CILO_5$, $CILO_6$	Mass lecture Tutorials Self-Directed Studies/On-line Learning
Personality and socio-emotional development	$CILO_2$, $CILO_3$, $CILO_4$, $CILO_5$, $CILO_6$	Mass lecture Tutorials Self-Directed Studies/On-line Learning
Language development	$CILO_2$, $CILO_3$, $CILO_4$, $CILO_5$, $CILO_6$	Mass lecture Tutorials Self-Directed Studies/On-line Learning
Moral development	$CILO_2$, $CILO_3$, $CILO_4$, $CILO_5$, $CILO_6$	Mass lecture Tutorials Self-Directed Studies/On-line Learning

Appendix IV – Alignment of Assessment Tasks and CILOs

Assessment Tasks	CILO
a. The Child Study (學童研習)	$CILO_{2,}$ $CILO_{4,}$ $CILO_{5,}$ $CILO_{6}$
b. Examination	$CILO_{1,}$ $CILO_{2,}$ $CILO_{3,}$ $CILO_{4,}$ $CILO_{6}$
c. Tutorial preparation and participation	$CILO_{1,}$ $CILO_{2,}$ $CILO_{3,}$ $CILO_{4,}$ $CILO_{6}$

Appendix V - Questionnaire

Student Number: _____ Group Number: _____

Part I: Child Study

Please indicate below the extent to which you agree with the statements

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. The Child Study has helped me developed my understanding of the importance of informed consent.	1	2	3	4
2. I have used appropriate theories to support the interpretation of the results.	1	2	3	4
3. The Child Study has made me respect the well-being of the child/adolescent whom I study.	1	2	3	4
4. The Child Study has encouraged me to respect different views about child development in both the Chinese and western cultures.	1	2	3	4
5. The Child Study has helped me develop independent thinking and judgement as how to conduct a study on children's cognitive development.	1	2	3	4
6. I have established a social relationship with the child and the parent/caretaker during and after the study.	1	2	3	4
7. I have designed and conducted the experiment in an interesting way.	1	2	3	4
8. The Child Study has given me the opportunity to communicate with children, parents, teachers, and peers.	1	2	3	4
9. The Child Study has helped me develop better problem solving ability.	1	2	3	4
10. The Child Study report has helped me improve my writing skills.	1	2	3	4
11. I just follow the basic procedures in conducting the experiment.	1	2	3	4
12. The Child Study has made me aware of the importance of protecting the child's/adolescent's privacy.	1	2	3	4
13. I don't know how to initiate a conversation with children, parents or teachers.	1	2	3	4
14. The Child Study has enabled me to understand the impact of different social cultural backgrounds on human development.	1	2	3	4
15. The Child Study has helped me obtain global perspectives in understanding child development.	1	2	3	4
16. The Child Study has made me think more critically in the study of children.	1	2	3	4
17. The Child Study has enlightened my thought to understand children's cognitive development.	1	2	3	4
18. The Child Study has provided me with the opportunity to conduct an experiment in a creative way.	1	2	3	4
19. The Child Study has encouraged me to use the library, the internet and the Institute's learning resources.	1	2	3	4
20. I understand the importance to show patience and respect during the interaction with children.	1	2	3	4
21. I am only interested in the local/Chinese view on child development.	1	2	3	4
22. I have built up my confidence in interacting effectively with children.	1	2	3	4
23. I don't know how to interact with the child when he/she does not follow my instruction.	1	2	3	4
24. I am not clear about the ethical requirement in the Child Study.	1	2	3	4
25. I accept the ideas of the theorists without questioning.	1	2	3	4
26. The Child Study has provided a good opportunity for me to learn how to solve problem.	1	2	3	4
27. I have designed different versions of tasks for the child to do during the experiment.	1	2	3	4

28. I felt helpless when I came across problems in conducting the Child Study.	1	2	3	4

Part II: CILOs

The Course Intended Learning Outcomes (CILOs) state that *upon successful completion of this course, students should be able to:*

CILO1 Identify the empirical characteristics of the sequence of developmental periods.

CILO2 Identify and critique relevant theoretical explanations for developmental progress.

CILO3 Identify and explain key factors influencing human development.

CILO4 Analyze individual and contextual factors influencing the development of students' individual differences.

CILO5 Adapt and apply appropriate techniques to systematically collect information and translate assessment results into empirically-based decisions.

CILO6 Reflect critically on educational practices in light of contextual factors and developmental theories and principles.

Please indicate below the extent to which you agree with the statements

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. After studying the course, I know the different stages of human development and the physical, psychological and social characteristics found in each of the respective stages.	1	2	3	4
2. After studying the course, I feel I am familiar with the theories used to explain the phenomenon during the developmental progress.	1	2	3	4
3. After studying the course, I feel I can identify and explain the key factors which influence human development.	1	2	3	4
4. After studying the course, I feel I am able to analyze individual children and the environmental factors which influence their development.	1	2	3	4
5. After studying the course, I feel I have learnt how to adapt and apply appropriate techniques to design and conduct an empirical study on children.	1	2	3	4
6. After studying the course, I feel I am able to reflect critically on educational practices by integrating theories with contextual factors.	1	2	3	4
7. After studying the course, I have gained a good understanding of how children and adolescent develop.	1	2	3	4
8. Overall, I feel I have achieved the above six CILOs well.	1	2	3	4

Thank You

Appendix VI – Interview Questions

CILOs

- Can you remember the CILOs of the course?
- Do you have a clear picture of what they are?
- What is your understanding of the CILOs?
- Which CILOs is the easiest to achieve?
- Which CILOs is the most difficult to achieve?
- How do you achieve the CILOs of the course?
- What difficulties do you encounter during the process?
- How do you overcome the difficulties?
- What factors can help you achieve the CILOs? (Institute/Classmates/Institute)
- What kind of learning resources can help you achieve the CILOs? (Library/ITS/Language Centre/etc)

Child Study

- What are the difficulties you encountered when conducting the Child Study?
- How do you overcome the difficulties?
- Do you have a clear understanding of the assessment rubric? What do you think about it?
- Is there anything you can change or add to improve the rubric?
- Do you think the Child Study can help you achieve the seven generic skills and the six CILOs?

OBL

- Have you heard of OBL? What do you know about it?
- Can you identify any advantage in the OBL approach to learning?
- In what way can OBL enhance your learning?
- Are there any other courses you have studied also use OBL? What is the difference between them and this course?
- Compared with the traditional approach, what are the differences you can observe in the OBL approach to learning?
- What do you think when all the courses in the IEd use the OBL approach? Will you support it? Why?