การพัฒนาตัวบ่งชี้การประกันคุณภาพภายในของโรงเรียนที่
จัดการเรียนการสอนทั้งแบบสามัญ และแบบอาชีวศึกษา:
กรณีโรงเรียนกัมปงเฌอเตียล ราชาอาณาจักรกัมพูชา

นายบุนเฮ ฮวด

INDICATOR DEVELOPMENT OF INTERNAL QUALITY ASSURANCE OF

THE SCHOOL PROVIDING BOTH GENERAL AND VOCATIONAL

EDUCATION SYSTEMS: A CASE OF KAMPONG CHHEUTEAL HIGH

SCHOOL, KINGDOM OF CAMBODIA.

Mr. Bunhe Harth

A Thesis Submitted in Partial Fulfillment of the Requirements

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Thesis Title	INDICATOR DEVELOPMENT OF INTERNAL QUALITY ASSURANCE OF THE SCHOOL PROVIDING BOTH GENERAL AND VOCATIONAL EDUCATION SYSTEMS: A CASE OF KAMPONG CHHEUTEAL HIGH SCHOOL, KINGDOM OF CAMBODIA.
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บุนเฮ ฮวด: การพัฒนาตัวบ่งชี้การประกันคุณภาพภายในของโรงเรียนที่จัดการเรียนการสอนทั้งแบบ สามัญ และแบบอาชีวศึกษา: กรณีโรงเรียนกัมปงเฌอเตียล ราชาอาณาจักรกัมพูชา. (INDICATOR DEVELOPMENT OF INTERNAL QUALITY ASSURANCE OF THE SCHOOL PROVIDING BOTH GENERAL AND VOCATIONAL EDUCATION SYSTEMS: A CASE STUDY OF KAMPONG CHHEUTEAL HIGH SCHOOL, KINGDOM OF CAMBODIA) อ.ที่ปรึกษาวิทยานิพนธ์ หลัก: ผศ.ดร.ณัฏฐภรณ์ หลาวทอง, 287 หน้า.

การวิจัยครั้งนี้มีวัตถุประสงค์ เพื่อ (1) ตรวจสอบตัวบ่งชี้ที่เหมาะสมเพื่อการประกันคุณภาพภายในที่ ออกแบบด้วย สมศ. และ สพฐ. สำหรับโรงเรียนที่เปิดสอนทั้งแบบสามัญและแบบอาชีวศึกษา (2) ติดตามปัญหา และอุบสรรค์ในการใช้ตัวบ่งชี้การประกันคุณภาพภายในที่ออกแบบด้วย สมศ.และ สพฐ.สำหรับโรงเรียนที่เปิด สอนทั้งแบบสามัญและแบบอาชีวศึกษา (3) เสนอโมเดลตัวบ่งชี้การประกันคุณภาพภายในที่เหมาะสมสำหรับ โรงเรียนที่เปิดสอนทั้งแบบสามัญและแบบอาชีวศึกษาที่ออกแบบด้วย สมศ. และ สพฐ. ผู้วิจัยได้ศึกษางานวิจัยที่ เกี่ยวข้องเพื่อนำมาสร้างเครื่องมือการวิจัย กลุ่มตัวอย่างที่ใช้ในการวิจัยครั้งนี้ ได้แก่ คณะผู้บริหารโรงเรียนที่ จัดการเรียนการสอนแบบสายสามัญ และแบบสายอาชีวศึกษาจำนวน 5 คน ครูผู้สอนจำนวน 71 คน นักเรียน จำนวน 16 คน และผู้ปกครองนักเรียนจำนวน 6 คน โดยใช้วิธีการคัดเลือกแบบเจาะจง ในการเก็บรวบรวมข้อมูล ผู้วิจัยได้ทำการสัมภาษณ์ และจัดการสนทนากลุ่ม หลังจากนั้น ผู้วิจัยได้ทำการประเมินภายในโรงเรียน และ ตรวจสอบตัวบ่งชี้โดยใช้ Stufflebeam Checklist ส่วนในการวิเคราะห์ข้อมูลนั้น ผู้วิจัยใช้การวิเคราะห์เชิงเนื้อหา (Content Analysis) ข้อมูลที่ได้จากวิเคราะห์ ได้นำมาใช้ประกอบการเสนอโมเดลตัวบ่งชี้ที่เหมาะสมสำหรับการ ประกันคุณภาพภายในโรงเรียนที่จัดการเรียนการสอนแบบสายสามัญ และแบบสายอาชีวศึกษา

ผลการวิจัยพบว่า (1) ตัวบ่งชี้ที่มีความเหมาะสมเพื่อการประกันคุณภาพภายในโรงเรียนที่จัดการเรียน การสอนทั้งแบบสามัญและแบบอาชีวศึกษามีจำนวน 41 ตัวบ่งชี้ (2) ครูควรมีความพร้อมในการใช้ตัวบ่งชี้เพื่อ ประกันคุณภาพการศึกษา และควรเตรียมเอกสารแนวทางการใช้ตัวบ่งชี้เพื่อการประกันคุณภาพภายในโรงเรียน รวมทั้งควรได้รับการฝึกอบรมเพื่อให้เข้าใจการประกันคุณภาพ นอกจากนี้ ครูควรตระหนักว่า การประกัน คุณภาพเป็นส่วนหนึ่งของระบบการบริหารจัดการ (3) โมเดลตัวบ่งชี้การประกันคุณภาพภายในสำหรับโรงเรียนที่ เปิดสอนทั้งแบบสามัญ และอาชีวศึกษาที่ได้พัฒนาขึ้น และที่มีความเหมาะสมนั้น มีส่วนประกอบ 9 ส่วน แบ่ง ออกเป็น 41 ตัวบ่งชี้ ซึ่งเป็นผลมาจากการจำแนกตัวบ่งชี้ 2 มิติ คือตัวแปรลักษณะตัวบ่งชี้ และประเภทการศึกษา

ภาควิชาวิจัยและจิตวิทยาการศึกษา   ลายมือชื่อนิสิต   .

สาขาวิชาการวัดและประเมินผลการศึกษา   ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก   .

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538 34598 27 : MAJOR   EDUCATIONAL MEASUREMENT AND EVALUATION
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BUNHE HARTH: INDICATOR DEVELOPMENT OF INTERNAL QUALITY ASSURANCE OF THE SCHOOL PROVIDING BOTH GENERAL AND VOCATIONAL EDUCATION SYSTEMS: A CASE STUDY OF KAMPONG CHHEUTEAL HIGH SCHOOL, KINGDOM OF CAMBODIA. ADVISOR: ASST. PROF. NUTTAPORN LAWTHONG, 287 pp.

The objectives of this study were to: (1) Examine the appropriate indicators of internal quality assurance designed by ONESQA and OBEC for the school providing both general and vocational education systems. (2) Investigate the concerns and challenges in implementing indicators of internal quality assurance designed by ONESQA and OBEC for the school providing both general and vocational education systems. (3) Propose possible indicator model of internal quality assurance of the school providing both general and vocational education systems based on the findings of the implementation of that designed by ONESQA and OBEC. Researcher studied related documentation and constructed research instruments. The samples in this research study were, 5 school administrators, 71 teachers, 16 learners, and 6 parents, purposively selected. Data collection was conducted by interviewing and doing focus group discussion. Then, researcher conducted internal quality assurance and indicator selection by Stufflebeam Checklist. Data obtained was analyzed by utilizing content analysis. Analyzed data was enabled to propose possible indicator model of internal quality assurance of the school providing both general and vocational education systems.

The results of the study revealed that (1) the appropriate indicators of internal quality assurance of the school providing both general and vocational education systems consisted of 41 indicators. (2) Teachers should be well-prepared in using indicators for internal quality assurance. Then, teachers should prepare guideline of indicator application for internal quality assurance. Teachers should be trained to understand about quality assurance. Teachers should be aware that quality assurance is a component of administration system. (3) Possible appropriate indicator model of internal quality assurance for the school providing both general and vocational education systems which have been developed were appropriate with this kind of school composed of 9 components which consisted of 41 indicators. The 9 components of indicators were the result of 2-dimension indicator separation. Those 2 dimensions are characteristic of indicator and type of education.

Department: Educational Research and Psychology   Student's signature   .

Field of Study: Educational Measurement and Evaluation   Advisor's signature   .

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CHARPTER I

INTRODUCTION

Background and Statement of the Problem

In the current world situation, education is widely considered as a pillar, main foundation and a very importance catalyst for human improvement and human development (UNESCO, 2010; MoEYS, 2010). This belief results in a rapid increase of social, regional, and global requirement for education quality (Belawati & Zuhairi, 2007). Unfortunately, according to G. M. Geletu and M. S. Upali (2010), the rapid spread of educational institutions, both public and private has been entangled with deteriorated quality of education. Education systems are also increasingly affected by many rapidly social, regional, and global development of trade and technology integration, leading to growing potential for the international movement of business, capitals and people.

If the quality of educational institutes is to be guaranteed, the institutes must focus on quality promoting (Cambell, 2002; Belawati & Zuhairi, 2007). To do this, institutes must consider national, regional and global economic and academic realities. Also, they must consider the standards of public perspectives. The public want educational institutions to show their strengths and potential. This concern has come to be the most important issue of learners, parents, guardians, communities, educators, and leaders. The public judge a school based on the performance of its graduates (Geletu, 2010).

The movement towards the quality of educational services needs to strengthen the quality assurance and accreditation on education services. Quality in education is

not only a national or regional concern but also has become an international one throughout academic, political, business, market, and commercial developments associated with globalization (Cambell, 2002). With this regards, education providers need to share or distribute high quality education with quality assurance services to ensure their own values and standards, which are always in line with national, regional and global development. This puts additional pressure on national governments to establish their own structures, which can be more easily geared to the preservation of regional, national and international values, and interest. Therefore, schools should constantly strive to improve the quality standards required.

Furthermore, the global movement on education has enhanced worldwide competition and boosted the requirement for quality education and school accountability (Cheng, 2003). Public perspectives want educational institutions to show their strengths and potential of distributing education services which conduct the business of education in a disciplined manner. In addition, the public wants to see how much educational institutions can produce graduates, who can fight against the unemployment of global market needs. Thus, the educational market in particular assumes new dominating expectations about the roles and practices of the educational institutions in producing high quality educated work force equipped with necessary market oriented practical skills (Geletu, 2010). Responding to the concern the accountability to the public and stakeholders' expectations, educational reform emphasizes quality, the stakeholders' satisfaction, and market competitiveness, with most policy efforts aimed at ensuring quality and accountability to the internal and external stakeholders (Evans, 1999; Goertz & Duffy, 2001; Coulson, 1999; Headington, 2000; Mahony & Hextall, 2000; Heller, 2001 cited in Cheng, 2003).

As mentioned above, there is an increasing competition among schools and institutions in setting up a positive school climate, setting professional standards, and establishing good quality assurance systems. Also, the quality assurance in education is needed to verify or determine whether education services meet or exceed public expectations or its vision. The issue of educational quality assurance centers on a reachable high quality learning and teaching (Lim, 2009).This concept of has come to be the most noticeable issue of learners, parents, guardians, communities, educators, leaders and nations. Therefore, operating a quality assurance system in educational institution is the rule rather than exception, because of the belief that it will improve the educational quality. To assure educational quality, educational institutions need to construct and develop indicators to set the criteria and standards to measure, evaluate and assure educational quality and that management, and learning–teaching process in the institution reaches the desirable goals fruitfully and effectively (Suwimon Wongwanich, B.E. 2544; Cheng, 2003). On the other hand to meet the formal quality assurance systems, most institutions had a latent quasi-quality assurance system, where long-established management and academic committee, with external colleagues, and the external examiner system operated, to provide external benchmarks and assure the educational quality (Lim, 2009). As the result many countries have explicit national institutional teaching quality assurance frameworks and many institutions have their own internal teaching quality assurance processes (Barrie & Ginns, 2007). But the quality assurance system or quality framework in such countries separated individually between general and vocational education, such as the following countries.

In Hong Kong's Vocational Education, quality assurance system based on an instrumental approach, has four parts: Quality Policy, Quality Assurance Framework, Evaluation System, Internal Monitoring System. All four approaches resulted in the adaptation of indicators and a Plan-Do-Check-Act quality cycle (Lim, 2009). But in general education, Quality assurance system levels was undertaken by the Quality Assurance Division of The Education and Manpower Bureau who published a consolidated Inspection Annual Report on key observations of the inspection process, as well as a summary on the good practices and arena of improvement of schools inspected.

In Thai general and vocational education, quality assurance system is based on output indicators which have 3 aspects: Basic Indicators, Identity indicators and Promoted Indicators and a Plan-Do-Check-Act quality assurance cycle and ensures the continuing operation of such a system (ONESQA, B.E. 2554).

In Cambodian educational quality assurance context, the concept of quality assurance indicators is a new idea as the government of Cambodia has placed particular emphasis on education with the firm belief that the long-term and sustainable development of a country stands on the provision and expansion of high quality in education (MoEYS, 2005). Therefore, there is no doubt that the contemporary Cambodian education quality is in the spotlight and needs strengthening. However, the implementation of indicators of quality assurance to measure and evaluate the school management performance in Cambodia is very limited. Cambodian educational quality assurance system these days are based on paper-pencil tests only (monthly tests, term tests and national tests). These kinds of student evaluation tools are very classical and it can't monitor what students perform

during their normal class time. Thus, this issue begs researchers to develop indicators of internal quality assurance for the Cambodian education context, especially for Kampong Chheuteal High School.

This high school was established and started its instructional activities under the MOU between the ministry of Education, Youth and Sport, Cambodia (MoEYS) and the project contributing to education in Cambodia of Her Royal Highness Princess Maha Chakri Sirindhorn. The instructional curriculum presently utilized in this High School has been provided by the Ministry of Education Youth and Sport of Cambodia (Kampong Chheuteal High School, 2007). Kampong Chheuteal High School conducts a dual system education: 1). General secondary education is conducted from grade 7 to grade 12 based on Cambodian curriculum and some new skills which benefit to limitation and possibility school status to provide technical knowledge and extra abilities to help students to have basic skills that they can earn jobs after they graduate. 2). Vocational education provides three levels (first year of vocational education's equivalent to grade 10 of general education) within four disciplines-electronics, electricity, animal husbandry and agriculture for students. The programs have been operated in an integrated system with the development of the quality of life and environmental protection (Kampong Chheuteal High School, 2005).

To promote and evaluate the performance management in Cambodian schools, this study will employ indicators of the Office for National Education Standard and Quality Assessment (ONESQA), Office of Basic Education Commission (OBEC) and Office of Vocational Education Commission (OVEC) of Thailand to evaluate Kampong Chheuteal High School, because this school's design

and some part of the administration, teaching, curriculum, especially vocational education were modeled after Thailand's educational model. The researcher of this study will examine the propriety and the feasibility of ONESQA and OBEC for this school. Moreover, the researcher will propose possible indicator model of internal education quality assurance to be utilized at Kampong Chheuteal High School.

Research Questions

1. To what extent, can indicators of internal quality assurance designed by ONESQA and OBEC be appropriately implemented for the school providing both general and vocational education systems?

2. What are concerns and challenges in implementing indicators of internal quality assurance designed by ONESQA and OBEC?

3. What are the possible proposed indicator models of internal quality assurance to be utilized in the school providing both general and vocational educational systems?

Research Objectives

1. To examine the appropriate indictors of internal quality assurance designed by ONESQA and OBEC for the school providing both general and vocational education systems.

2. To investigate the concerns and challenges in implementing indicators of internal quality assurance designed by ONESQA and OBEC at the school providing both general and vocational education systems.

3. To propose possible indicator model of internal quality assurance of the school providing both general and vocational education systems based on the findings of the implementation of that designed by ONESQA and OBEC.

Scope of the Study

This study of indicator development of internal quality assurance was used for schools providing both general and vocational education systems in Cambodia. The study took place in Kampong Chheuteal High School. This high school was established and started its instructional activities under the MOU between the Ministry of Education, Youth and Sport, Cambodia (MoEYS) and the project contributing to education in Cambodia of Her Royal Highness Princess Maha Chakri Sirindhorn of Thailand. The instructional curriculum presently utilized in this High School has been provided by MoEYS.

The participants in this study were school director, vice directors, teachers, students and parents of Kampong Chheuteal High School and nearby school communities. All the samples were asked to examine the indicators of internal quality assurance originally designed by ONESQA and OBEC to propose those indicators of internal quality assurance to be used in the context of Kampong Chheuteal High School.

Variables of this study were the indicators of internal quality assurance of the school providing both general and vocational education systems.

Definition of the Terms

Basic or general Education means a secondary level of education which is given by lower secondary school, upper secondary school and institution.

Vocational education refers to the education provided students with four vocational skills, namely electronic, electricity, animal husbandry, and agriculture. Students who completed this educational course obtain the qualification which is equivalent to grade 12 certificates of general education.

Indicator refers to key indicators in which its data or statistic is set to verify the accomplishment of a specific objectives. Associated with this should be an agreement to kind of measurement and a standard for accomplishment.

Quality refers to the level of excellence in performance which can be measured by establishing an acceptable criteria and standards of good performance.

Quality assurance mirrors the process of assuring teaching, learning and out comes so as to assure if the institution meets the generally accepted quality and standards.

Internal quality assurance means process of assuring teaching, learning and outputs by the institution itself.

Educational standards mean specifications of educational characteristics, quality desired, and proficiency required of all educational institutions. They serve as means for equivalency for purposes of enhancement and monitoring, checking, evaluation, and quality assurance in the field of education.

Student refers to those who study in Kampong Chheuteal High School, Kingdom of Cambodia, during 2011-2012 academic years.

Stakeholder means the people who work in relation with education such as villagers, governors, community police, district or provincial of education officers.

Educational administrator means professional personnel who are responsible for educational administration on educational institutions. Their responsibilities cover the level of educational service area.

Educational personnel mean educational institution administrators, educational administrators as well as donated personnel providing services or whose responsibilities relating to instructional process, supervision, and administration.

Educational quality is a fundamental, multi-dimensional concept which refers not only to the educational model, but also to the institutional mission and its goals, as well as to the specific standards of the system, facility, program or event.

Internal quality assurance indicators for Kampong Chheuteal High School means an instrument which helps schools to point out the important areas of their own activities- their own advantages and disadvantages and development opportunities used to ensure internal education quality consisting of three aspects: basic indicators, identity indicators, and promoted indicators for Kampong Chheuteal High School.

Significance of the Study

This study aimed to adapt the indicators of internal quality assurance of the school providing both general and vocational education systems. It was the only dual system school in Cambodia at this time and this indicator development will:

1. Help educational institutions, especially Kampong Chheuteal High School, successfully distribute their accumulated knowledge and increase their efficiency.

2. Be the guideline for other 5 dual system schools which are being built in 2013-2014 (MoEYS, 2010).

3. Be useful for researchers in terms of how to instruct the students effectively, to foster the students' learning performance and to enhance and to assure their learning proficiencies and learning quality.

4. Create opportunity to all related agencies and stakeholders to participate in troubleshooting school internal quality assurance standards.

5. Provide appropriate guidelines for Cambodian schools in utilizing indicators of educational quality assurance in their performing for more effective instruction.

CHARPTER II

LITERATURE REVIEW

In this part of the study, the researcher explored the theoretical frameworks on indicator development for the general education and vocational education in content, standards, and acceptable criteria. He also explored how to use indicators to evaluate educational quality. In order to provide a background for this study, there were 5 concepts addressed in this literature review:

A. Quality Assurance Indicators

    1. Quality Assurance Indicators for General Schools

    2. Quality Assurance Indicators for Vocational Schools

B. Concept Related to Indicators and Indicator Development

C. Stufflebeam Checklist

D. Education Quality Assurance

E. Cambodian Educational Quality Assurance

A. Quality Assurance Indicators

MoEYS (2006) Cambodian education aimed to create educated and good people by balancing all perspectives-intelligence, consciousness, moral, knowledge, sentimentality, and physicality. To ensure that teachers are effective in meeting MoEYS's goal, indicators measure process of teaching-learning would be used. Institutions need to have standard/criteria or indicators to follow up, audit the performance of the institutions in harmony with section 47 of Thai Act (B.E. 2542), there shall be a system of educational quality assurance to ensure improvement of

educational quality and standard at all levels. Such a system shall be comprised of both internal and external quality assurance.

1. Quality Assurance Indicators for General Education

Parent's judgment over educational institutions and the institutions themselves should establish a quality assurance system in the institutions. Internal quality assurance should be regarded as partial of educational administration which must be a continuous process (NEA B.E. 2542).

1.1 External Quality Assessment Indicators (ONESQA, B.E. 2554)

The Office of National Standards and Quality Assessment (public organization) ONESQA performed external assessment first phase (B.E. 2544-2548) which was an external quality assessment without judgment the assessment outputs. It was only an assessment to confirm the institution authenticity and understanding creation with institution to perform institution quality assurance principles correctly. ONESQA re-performed external assessment the second phase (B.E. 2549-2553). Assessment that time was an assessment aimed to attain precise choice and more objectives of external institution quality assessment and aimed to access an assessment results to promote and develop educational quality and aimed to assess learning-achievement to accredit educational quality standards. Thus, external quality assessment consisted of 14 standards of external quality assessment (ONESQA, B.E.2549). And ONESQA is assessing third phase assessment (B.E. 2554-2558) which is an assessment to promote educational quality standards concerning about outputs, outcomes, and impact more than concerning the process of educational quality standards. There are 12 indicators for third round of external education quality assessment. They are developed and divided into 3 categories- basic indicators,

identical indicators, and promoted indicators to be in line with ministry of education of Thailand's policy "system, principle criteria and method of institutional quality assurance (B.E. 2553)". After study indicators of external quality assessment of general basic education institutions showed that some of all standards were consistent with and in the same line based on ONESQA's standards and indicators of external quality assessment. But some indicators needed to be adjusted for the Cambodian context. The bellow table shows the development of external quality assessment indicators.

Table 2.1

The process of developing external quality assessment indicators for general education during three-phase assessment of ONESQA

Standard	Indicators (1st round)	Indicators (2nd round)	Perspective	Indicators (3rd round)
7 Standards Regarding Learners' Quality	1. Learners are endowed with morality, ethics and desirable values. 2. Learners are capable of analytical, synthetic and reflective thinking; and have judgment, creativeness, and vision. 3. Learners have knowledge and skills required as specified in curriculum.	1. Learners are endowed with morality, ethics and desirable values. 2. Learners have desirable health behavior and good physical and mental health. 3. Learners appreciate with beauty and have predilection for the art music and sports.	Basic Indicators Group	1. Learners have good physical and mental health. 2. Learners are endowed with morality, ethics, and desirable values. 3. Learners have skills in seeking knowledge themselves and study continuously.

Stan dard	Indicators (1st round)	Indicators (2nd round)	Persp ective	Indicators (3rd round)
7 Standards Regarding Learners' Quality	4. Learners have skills in seeking knowledge themselves; love learning and are capable of continuous self-development. 5. Learners have skills in working; love working; are able to work with others and favor honest occupation. 6. Learners have desirable health behavior and good physical and mental health. 7. Learners appreciate with beauty and have predilection for the art music and sports.	4. Learners are capable of analytical, synthetic and reflective thinking; and have judgment, creativeness, and vision. 4. Learners have knowledge and skills required as specified in the curriculum. 5. Learners have skills in seeking knowledge themselves; love learning and are capable of continuous self-development. 6. Learners have skills in working; love working; are able to work with others and favor honest occupation.	Basic Indicators Group	4. Learners are able to think and link it with empirical practice. 5. Learners' study achievement. 6. The efficiency of instruction management emphasis on learners-centered approach. 7. The efficiency of administration and educational development management. 8. Internal quality assurance development processed by institution and district/provincial office.

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Stan dard	Indicators (1st round)	Indicators (2nd round)	Persp ective	Indicators (3rd round)
2 Standards Regarding to Teachers	9. Teachers are able to organize effective teaching-learning activities, with emphasis on learner-centered approach. 10. Teachers are qualified/ knowledgeable and competent in line with their responsibility and are sufficient in number. 11. Administrators have good leadership and competence in administration and management. 12. Educational institution has organization development, structure and PDCA administrative system,	8. Teachers are qualified/ knowledgeable and competent in line with their responsibility and are sufficient in number. 9. Teachers are able to organize effective teaching-learning activities, with emphasizing on learner-centered approach. 10. Administrators have good leadership and competence in administration and management. 11. Educational institution has organization development, structure and PDCA administrative system,	Identity Indicator Group	11. Development result reaches the philosophy, vision, mission and the objectives of institution construction. 12. Development results as focus and strengths reflecting as school identity.

Stan dard	Indicators (1st round)	Indicators (2nd round)	Persp ective	Indicators (3rd round)
	enable it to reach educational goals.	enabling it to reach educational goals.		
5 Standards Regarding Administrators	13. Educational institution promotes good relations and cooperation with community for educational development. 14. Educational institution organizes activities and provides instruction through learner-centered approach. 15. Educational institution has curriculum suitable to learners and local area; and has teaching-learning media conductive to learning.	11. Educational institution organizes activities and provides teaching and learning through learner-centered approach. 12. Educational institution has curriculum suitable to learners and local area; and has teaching-learning media conductive to learning. 13. Educational institution promotes good relations and cooperation with community for educational development.	Promoted Indicator Group	14. Result of special program performance promotes institution's function. 15. Result of institution promotion enhances standard level, standard treatment, and develops to reach the best goals consisting education reformation concept.

1.2 Internal Quality Assurance Indicators

The institutions performed the internal quality assurance indicators of Office of the Basic Education Commission (OBEC) in the first and second phase with 18 standards and third round by utilizing 15 standards. Some standards indicators used in the first and second round had been adjusted for the third round assessment. After the adjustment for third phase, the standards for internal quality assurance for basic education of OBEC composed of 5 categories (B.E. 2554).

Table 2.2

The process of developing internal quality assurance indicators of OBEC for the institutions during last two phase assessment

Standard	Second Round of Internal Quality Assurance Indicators	Standard	Third Round of Internal Quality Assurance Indicators
Standard for Learners	1.1 Learners are endowed with morality, ethics and desirable values. 1.2 Learners are endowed with consciousness in conserving and developing environment.	Standard for Learners	1.1 Learners have good physical and mental health. 1.2 Learners are endowed with morality, ethics, and desirable values. 1.3 Learners have skills in seeking knowledge themselves, love learning and capable of continuous self-development.

Stan dard	Second Round of Internal Quality Assurance Indicators	Stan dard	Third Round of Internal Quality Assurance Indicators
Standard for Learners	1.3 Learners have specific expertise and positive working attitude. They are honest and able to work with others effectively and peacefully. 1.4 Learners are capable in analytic and synthetic thinking and have thoughtful, innovative and wise thinking as well as a clear mission. 1.5 Learners have knowledge and skills required by the curriculum. 1.6 Learners are equipped with self-development skill and have a sense of loving of a life-long learning. 1.7 Learners are wealth behaved, and physically and mentally healthy. 1.8 Learners appreciate beauty and have predilection for art music and sports.	Standard for Learners	1.4 Learners capable with systematic thinking, creative thinking, judgment and solving the problem consciously and reasonably. 1.5 Learners have knowledge and skills required as specified in the curriculum. 1.6 Learners have skills in working, love working and are able to work with others and favor honest occupation.

Stan dard	Second Round of Internal Quality Assurance Indicators	Stan dard	Third Round of Internal Quality Assurance Indicators
Standard for Instruction	2.1 Teachers are endowed with good moral and ethical conduct. They are knowledgeable and qualified for their current job. The educational institution emphasized the continuous professional development and employ adequate number of teachers. 2.2 Teachers are capable to manage their instruction which effectively applies learners-centered approach.	Learning Management	2.1 Teachers perform the duties effectively and reach the effectiveness. 2.2 Administrators perform the duties effectively and reach the effectiveness. 2.3 School committee, parents and communities perform the duties effectively and reach the effectiveness. 2.4 Institutions manage curriculum learning procedures and activities to develop learners' quality all aspects. 2.5 Institutions manage environment and services which promote learners to develop full potential. 2.6 Institutions have internal quality assurance system by the defined ministry' law.

Stan dard	Second Round of Internal Quality Assurance Indicators	Stan dard	Third Round of Internal Quality Assurance Indicators
Standard for Educational Administration and Management	3.1 Administrators possess good morality and effective leadership and are able to manage tasks effectively. 3.2 Educational institutions set up the organizational structure, working system, and PDCA-based organizational development. 3.3 The educational institution is utilized as a base for administrative and academic purposes. 3.4 The educational institution possesses the academic curriculum and instruction by applying learner-centered. 3.5 Institutional institutions organize the activities to promote instructional quality. 3.6 Institutional institution organizes and manages the learning environment to promote the learning potential naturally.	Quality of Social Learning Construction	3.1 Educational institutions construct, promote, and support educational institutions to be the social learning.

Stan dard	Second Round of Internal Quality Assurance Indicators	Stan dard	Third Round of Internal Quality Assurance Indicators
Standard of Developing Social Learning	4.1 Educational institutions promote the utilization of learning resources and local wisdom. 4.2 Educational institution co-operates with students' family, religious organization, academic institute, and private and state organization to improve the ways of learning in the community.	Institution Identity	4.1 To develop institutions to achieve the goal of desirable vision, mission, and strengths.
		Promoted Scale	5.1 Manage activities as policy, strength, educational reformation concept to develop and support institutions enhancing higher quality.

2. Quality Assurance Indicators for Vocational Education

In recent years most of the countries of the Asia-Pacific region, technical and vocational education and training were recognized as the amount of on-the-job learning and considered as special backbone of industry to economic development (Leney et al., 2004 cited in Gendron, 2009; Upali, 2010; Guthrie, 2010; Raisanen & Rakkolainen, 2010). As a result of growing awareness of the need to adapt technical and vocational education and training to meet the rapidly changing national, regional, and global economic requirement. Vocational education provided students with certain basic skills and knowledge required and supplied with tools needed to improve their knowledge through lifelong education (Qureshi, 1996; Coates, 2009).

OVEC (B.E. 2551) asserted that vocational education means educational management and training the profession to produce and develop semi-professional workers, and professional workers with technique to upgrade quality and standard to be in line with economic, social, cultural and environment rapid movement. Vocational education and occupational training should be provided in educational institutions belonging to the state or the private sector enterprises or those organized through co-operation of educational institution and enterprises, in accord with the vocational education act and the relevant laws to enhance their quality and efficiency (Deming, 1982 cited in Coates, 2009; Mardar, 2010). However, teaching-learning vocational education should have a quality assurance to build audiences' confidence and satisfaction. Graduates must have enough skills to join workforce and be acceptable by society (DGE, B.E.2542). Vocational education must have a quality required, then, institutions need to develop quality assurance mechanisms such as construction and development of most useful indicators to strengthen and assure

vocational education quality and standards (Sowimon Wongwanich, B.E. 2544; Coates, 2009).

2.1 External Quality Assessment Indicators (ONESQA, B.E. 2554)

ONESQA performed external assessment first round (B.E. 2544-2548) which was an external quality assessment without judgment the assessment outputs. It was just an assessment to confirm institution authenticity and understanding to follow institution quality assurance principles. ONESQA re-performed external assessment for the second round (B.E. 2549-2553). Assessment at that time was an assessment aimed to attain precise choice and more objectives of external institutional quality assessment. It was aimed to assess assessment results to promote and develop educational quality and aimed to assess learning-achievement of accredited educational quality standards. Thus, external quality assessment consisted of 6 standards of external quality assessment (ONESQA, B.E. 2549). The third round of ONESQA assessment (B.E. 2554-2558) is an assessment to promote educational quality standards concerning outputs, outcomes, and impact. There are 18 indicators for third round of external education quality assessment. They are developed and divided into 3 categories: basic indicator, identical indicator, and promoted indicator to be in line with Ministry of Education of Thialand's policy "system, principle criteria and method of institutional quality assurance (B.E. 2553)". The study of indicators of external quality assessment of general basic education institutions showed that some standards were concurrent and in accord with ONESQA's standards and indicators.

Table 2.3

The process of developing external quality assessment indicators for vocational education during 3 phase assessment of ONESQA

Stan-dard	Indicators (1st round)	Stan-dard	Indicators (2nd round)	Persp-ective	Indicators (3rd round)
Graduates' Standard	1.1 System and mechanism of internal quality assurance continuity. 1.2 Efficiency of internal quality assurance.	Internal Quality Assurance	1.1 System and mechanism of internal quality assurance which enhance continuity quality development. 1.2 Efficiency of internal quality assurance.	Basic Indicator Group	1.1 Graduates are able to be employed to work in the respective expertise with one year. 1.2 Students obtain knowledge and skills required for their work. 1.3 Students are able to pass the vocational standardized test which is recognized by the professional institution.
Learners' Standard	2.1 Percentage of learners who passed NT test. 2.2 Percentage of employment and self-employed less than one year of all graduates.	Graduates' Quality	2.1 Percentages of graduates passing professional standardized criteria. 2.2 Academic achievement. 2.3 Percentage of students being		

Stan-dard	Indicators (1st round)	Stan-dard	Indicators (2nd round)	Persp-ective	Indicators (3rd round)
	2.3 Satisfaction level of businessmen and employers.		employed in one year including establishment of their business. 2.4 Satisfaction level of employers and businessmen.		1.4 Students' vocational achievement and innovative creation are useful for public.
Standard of Learning Promoted	3.1 Practice hour and learners' field study hours with good corporation. 3.2 Tool utilization rate and media in teaching worthily. 3.3 User satisfaction level both teachers and learners with teaching tools and media and training for experiences.	Vocational Instruction Management	3.1 Development of competency-based curriculum focusing on empirical practice to strengthen the professional capability to the international level. 3.2 Institutions have many learning management systems and procedures which enhance learners to train professional	Basic Indicator Group	1.5 Innovative and creative achievements are useful for the public interest. 1.6 Achievement of academic service and profession promote student development skill. 1.7 Learners learned for their experience in the field.

Stan-dard	Indicators (1st round)	Stan-dard	Indicators (2nd round)	Persp-ective	Indicators (3rd round)
Standard of Learning Promoted	3.4 Other institution corporation hours both public and private institution in using tools to train for experiences.	Vocational Instruction Management	skills by empirical practices. 3.3 Proportion of teachers who have professional expertise in the specific major. 3.4 Man-hour of experts from business sector or local wisdom, invited to lecture in each vocational department /major. 3.5 Learners' satisfaction level toward teachers' teaching quality.	Basic Indicator Group	1.8 Achievement of the educational committee and administrator. 1.8.1 Achievement of committee performance. 1.8.2 Result of administrator performance. 1.9 Achievement of the utilization of information technology in the education management. 1.10 Achievement of teacher and staff professional development.

Stan-dard	Indicators (1st round)	Stan-dard	Indicators (2nd round)	Persp-ective	Indicators (3rd round)
Research and Creative Standard	4.1 Proportion of all learners per teacher. 4.2 Budget to run learners' learning.	Vocational Instruction Management	3.6 Adequate budget for training in each major. 3.7 The readiness of academic resource center.	Basic Indicator Group	1.11 Result of risk management. 1.12 Achievement of participative creation in the implementation of quality assurance.
Research and Creative Standard	4.3 Percentage of training material budget for operation budget. 4.4 Proportion of all academic qualified teachers for learners each department. 4.5 All teacher percentages who were educated to upgrade specific knowledge area/profession	Vocational Instruction Management	3.8 Adequacy and modernity of educational material to utilized in each vocational department. 3.9 Number of learners' activities and educational development projects.	Basic Indicator Group	1.13 Develop/improve the quality of educational institution for the feedback of internal quality assurance.

Stan-dard	Indicators (1st round)	Stan-dard	Indicators (2nd round)	Persp-ective	Indicators (3rd round)
Research and Creative Standard	and teaching methods in harmony with National Act B.E. 2542. 4.6 All cost used in resource center for learners. 4.7 Expert man-hour/qualified businessmen or local wisdom.	Vocational Instruction Management	3.10 Efficiency of activity management to promote learner in both academic and ethics.	Basic Indicator Group	
Academic Administration Standard	5.1 Number of innovation work, projects, applied researches/ practice researches and academic journal of teachers and learners.	Innovation and Knowledge of Teachers and Learners	4.1 Number of innovation, artifact, operational research studies, action research of both teachers and students.	Identity Indicator Group	2. Achievement of the development of the philosophy, vision, mission, and strength of the educational institution.

Stan-dard	Indicators (1st round)	Stan-dard	Indicators (2nd round)	Persp-ective	Indicators (3rd round)
Academic Administration Standard	5.2 Number of innovation work, projects, applied researches/ practice researches which enable to utilize in teaching-learning or develop community region/ country 5.3 Budget supports innovation, projects, applied researches development and teachers' academic work.	Innovation and Knowledge of Teachers and Learners	4.2 Number of academic achievement, artifact, innovation which is awarded, disseminated and utilized for occupational purposes. 4.3 Percentage of budget including additional budget, to be used for proving teachers' and students' knowledge.	Identity Indicator Group	2.1 Development achievement reaches the global in accordance with the philosophy, vision, mission, and objective of the institution construction. 2.2 Development achievement reaches the focus and strength which reflect as institutional identity.
Standard of Learners' Affairs	6.1 Number of activities/ projects provides academic service to community and society.	Providing Academic	5.1 Number of activities/projects which provide academic service responding to community.		

Stan-dard	Indicators (1st round)	Stan-dard	Indicators (2nd round)	Persp-ective	Indicators (3rd round)
and Support art and Custom	6.2 Percentage of budget used in activities and projects which provide academic service to community and society.	Service to Community and Society	5.2 Efficiency of providing academic service to community and society.		
Administration Standard	7.1 Number of activities and number of students who participate in the projects. 7.2 Percentage of budget used in learners' affairs.	Administration and Management	6.1 Administrators in all levels have vision, leadership, administration plans jointly created by vocational community and take responsibility to the work. 6.2 Use institution database in administrating and managing. 6.3 Number of teachers who have been trained.	Promoted Indicator Group	3.1 Achievement of students' quality development. 3.2 Achievement of teachers' quality development. 3.3 Development of the quality of educational institution as the crucial learning resource. 3.4 The creation of educational participation and learning.

Stan-dard	Indicators (1st round)	Stan-dard	Indicators (2nd round)	Persp-ective	Indicators (3rd round)
Internal Quality Assurance Standard	8.1 Administrators endowed with leadership, competency in administrated management and good governance system. 8.2 Percentage of personnel salary all majors with operated budget. 8.3 Proportion of non-academic personnel budget with learners. 8.4 Expenditure percentage in managing central budget with all operations. 8.5 Reduce prize with learners. 8.6 Maintenance budget. 8.7 % of budget paid for operation.		6.4 Work and project development in accordance with strategies focusing on participation network members and vocational community by sharing resources and allowing/promoting the enterprise's participation in the educational management.		

2.2 Internal Quality Assurance Indicators

Vocational institutions performed the internal quality assurance indicators of Office of Vocational Education Commission (OVEC) in the first and second phase with 7 standards and third round by using 6 standards. Some standards indicators from the first and second round had been adjusted for the third round assessment. After the adjustment for third phase, the standards for internal quality assurance for vocational education of OVEC compose of 6 standards and 33 indicators (B.E. 2554).

Table 2.4

The process of developing internal quality assurance indicators for vocational education during last two phase assessment of OVEC

Standard	Second Round of Internal Quality Assurance Indicators	Standard	Third Round of Internal Quality Assurance Indicators
Vocational Graduates	1.1 Percentages of learners achieving learning result by defined criteria. 1.2 Percentages of learners transfer their study. 1.3 Percentages of learners are capable to apply math and science to solve the problem in performing profession systematically.	Vocational Graduates	1.1 Percentages of learners achieve learning result as desirable criteria each year. 1.2 Percentages of learners are capable to apply scientific principle and math in solving problem of performing occupation systematically.

Stan dard	Second Round of Internal Quality Assurance Indicators	Stan dard	Third Round of Internal Quality Assurance Indicators
Vocational Graduates	1.4 Percentages of learners have communication skills- listening skill, reading skill, conversation in Thai and other foreign languages. 1.5 Percentages of students are capable to apply knowledge needed in searching and performing profession appropriately. 1.6 Percentages of learners have good morality, ethics and good values of profession; have appropriate physic and good human relationship. 1.7 Percentages of learners achieve learning result by the graduated criteria as the occupational certificate curriculum. 1.8 Percentages of learners achieve the graduated criteria as high level of occupational certificate curriculum.	Vocational Graduates	1.3 Percentages of learners have communication skills- listening skill, reading skill, and conversation including Thai and other foreign languages. 1.4 Percentages of learners can use knowledge and needed technology in searching and performing appropriate occupation. 1.5 Percentages of learners have morality, ethics, and good occupational value, have appropriate physic and have good human relationship. 1.8 Percentages of graduates achieve learning result by graduated criteria. 1.9 Percentages of graduates pass occupational standard assessment.

Stan dard	Second Round of Internal Quality Assurance Indicators	Stan dard	Third Round of Internal Quality Assurance Indicators
Vocational Graduates	1.9 Percentages of learners graduate from occupational certificate curriculum and pass occupational assessment. 1.10 Percentages of learners graduate from high level of occupational certificate curriculum and pass the occupation assessment. 1.11 Percentages of graduates are employed within one year and establishment their own business. 1.12 Organization satisfies with the expertise graduates.	Vocational Graduates	1.10 Percentages of graduates are employed within one year and self-establishment of the business. 1.11 Organization satisfies with expertise graduates.
Curriculum and Instruction Management	2.1 Percentages of qualified course performance. 2.2 Percentages of integrated learning management plan. 2.3 Learners' satisfaction for teachers' instruction quality. 2.4 Percentages of budget which institution buy training tools, instruments for appropriate instruction management.	Curriculum and Construction Management	2.1 Quality of curriculum performance is concurrent with labor market required.

Stan dard	Second Round of Internal Quality Assurance Indicators	Stan dard	Third Round of Internal Quality Assurance Indicators
Curriculum and Instruction Management	2.5 Appropriateness and adequacy of computers each major. 2.6 Appropriateness of management- training buildings, training fields are concurrent to the major. 2.7 Appropriateness of library center management is appropriate with the major. 2.8 Appropriateness of durable articles and tools. 2.9 Quality of safety management, environment facilitates learning each major. 2.10 Percentages of personnel in the institution have been developed follow the responsible profession. 2.12 Numbers of times or quality of soliciting resources for other resources including internal and external institution support effective teaching-learning management.	Curriculum and Construction Management	2.2 Percentages of budget which institution buy training tools, instruments to manage instruction appropriately. 2.3 Propriety and adequacy of computer system for each discipline. 2.4 Propriety of management-classroom, workshop room, laboratory, training room, training field are appropriate with the learning disciplines, good environment and obtain high efficiency. 2.5 Quality of safety management of environment facilities is available for learning in the institution. 2.6 Percentages of internal institution personnel have been developed follow responsible duties.

Stan dard	Second Round of Internal Quality Assurance Indicators	Stan dard	Third Round of Internal Quality Assurance Indicators
Curriculum and Instruction Management	2.13 Numbers of workshops cooperate with institution management study in the form of dual or normal system. 2.14 Man-hour of expert/local wisdom are invited to develop learners. 2.15 Qualified teacher proportion in occupation for learners each major 2.16 Permanent teacher proportion for learners.	Curriculum and Construction Management	2.7 Numbers of times or quality of associated resources for other resources including internal and external institution support effective instruction management. 2.8 Numbers of organizations cooperate with the institution manage study in dual and normal system. 2.9 Man-hour of experts/local wisdom is invited to develop learners. 2.10 Permanent teacher proportion qualified in occupation for learners each discipline.
Activities to Develop Learners	3.1 Numbers of times for learners to meet advisor. 3.2 Numbers of times for checking drug for learners. 3.3 Numbers of learner who drop out school compare to the first enrollment.	Activities to Develop Learners	3.1 Numbers of times for the learners to meet advisors. 3.2 Numbers of times checking drug for learners. 3.3 Percentages of learner who drop out school compare to the first enrollment.

Standard	Second Round of Internal Quality Assurance Indicators	Standard	Third Round of Internal Quality Assurance Indicators
Activities to Develop Learners	3.4 Numbers of time and kinds of activities promote academy, morality, ethics, and good occupational values including physic and human relationship. 3.5 Numbers of times and kinds of activities promote environment conservation, custom, tradition, and support art music and culture.	Activities to Develop Learners	3.4 Numbers of times and kinds of activities promote academy, morality, ethics, good occupational values including physic and human relationship. 3.5 Numbers of times and kinds of activities promote environment conservation, custom, tradition, and minister custom art.
Occupational Service for Society	4.1 Numbers of effective activities/projects serve occupational services and training occupational skills. 4.2 Percentages of budgets of management activities/projects serve occupational services and training occupational skills.	Occupational Management for Society.	4.1 Numbers of effective activities/projects serve profession and promoting knowledge of community development and activities/projects of profession training employing people's profession. 4.2 Percentages of budget in managing activities/projects which serve profession and knowledge of community development and

Stan dard	Second Round of Internal Quality Assurance Indicators	Stan dard	Third Round of Internal Quality Assurance Indicators
			activities/projects of profession training to employ people's profession for all budgets.
Innovations and Researches	5.1 Numbers of innovation, artifact, research and project. 5.2 Numbers of innovation, artifact, research and project are useful for occupation or national publishing. 5.3 Percentage of budget used in constructing, developing, and publishing innovation, artifact, research, and project. 5.4 Number of time and media of publishing data, information relating to innovation, artifact, research and project.	Innovations and Researches	5.1 Numbers of innovation, artifact, research and project enable to apply in developing instruction employment and community development in local area and country which compete at national level. 5.2 Percentages of budget used in constructing, developing, and publishing innovation, artifact, research, and project from all budget. 5.3 Numbers of time and media of publishing data, information relating to innovation, artifact, research and project which enable to develop instruction, community, society and country.

Standard	Second Round of Internal Quality Assurance Indicators	Standard	Third Round of Internal Quality Assurance Indicators
Leadership and Management	6.1 Administration quality of administrators is concurrent with strategy and participation of occupational community with transparency and accountability. 6.2 Percentages of institutional personnel can perform as the professional ethics. 6.3 Quality of information computer technology (ICT) management and institutional skill management.	Leadership and Management	6.1 Administration quality of administrators is concurrent with strategy and participation of occupational community by transparency and accountability. 6.2 Percentages of institutional personnel can perform by the occupational standard ethics accurately and appropriately. 6.3 Quality of information management system and knowledge of institution.
Internal Quality Assurance Standard	7.1 System and mechanism for internal quality assurance. 7.2 The efficiency of internal quality assurance.		

Table 2.5

Internal General Education Indicators versus Internal Vocational Education Indicators

Indicator group	General Education Indicators	Indicator group	Vocational Education Indicator
Standard for Learners	1.1 Learners have good physical and mental health.	Learners and Occupational Graduates	1.1 Percentages of learners achieve learning result as desirable criteria each year.
	1.2 Learners are endowed with morality, ethics, and desirable value.		1.2 Percentages of learners are capable to apply scientific principle and math in solving problem of performing occupation systematically.
	1.3 Learners have skills in seeking knowledge them-selves, love learning and are capable of continuous self-development.		1.3 Percentages of learners have communication skills-listening skill, reading skill, and conversation including Thai and other foreign languages.

Indicator group	General Education Indicators	Indicator group	Vocational Education Indicator
Standard for Learners	1.4 Learners are capable with systematic thinking, creative thinking, judgment and solving the problem consciously and reasonably.	Learners and Occupational Graduates	1.4 Percentages of learners can use knowledge and needed technology in searching and performing appropriate occupation.
	1.5 Learners have knowledge and skills required as specified in the curriculum.		1.5 Learners have morality, ethics, good occupational value, appropriate physic, and good human relationship.
	1.6 Learners have skills in working, love working and are able to work with others and favor honesty.		1.6 Percentages of graduates achieve learning result by graduated criteria.
			1.7 Percentages of graduates pass occupational standard assessment.
			1.8 Percentages of graduates are employed or they can establish their own business within one year.
			1.9 Organization satisfies with expertise graduates.

Indicator group	General Education Indicators	Indicator group	Vocational Education Indicator
Learning Management	2.1 Teachers perform the duties effectively to reach the goal.	Curriculum and Instruction Management	2.1 Quality of curriculum performance is concurrent with labor market required.
	2.2 Administrators perform the duties effectively and reach the goal.		2.2 Quality of learning management by applying learners-centered approach in training occupational skills-authentic practice enhancing students to develop naturally, full potential and they satisfy to teaching quality.
	2.3 School committee, parents, and communities perform the duties effectively and reach the goal.		2.3 Percentages of budget which institution buy training tools, instruments to manage instruction appropriately.
	2.4 Institutions manage learning procedures by the curriculum and activities to develop learners' quality.		2.4 Propriety and adequacy of computer system in each discipline.
	2.5 Institutions manage environment and services which promote learners to develop full potential.		2.5 Appropriateness of infrastructure management-classroom, workshop room, laboratory, training room.

Indicator group	General Education Indicators	Indicator group	Vocational Education Indicator
		Curriculum and Instruction Management	2.6 Quality of safety management of environment facility is available for learning in the institution.
			2.7 Percentages of internal institution personnel have been developed by responsible duties.
			2.8 Numbers of times or quality of associated resources for other resources including internal and external institution support effective instruction management.
			2.9 Numbers of organizations corporate with the institution manage study in dual and normal system.
			2.10 Man-hour of experts/ local wisdom is invited to develop learners.
			2.11 Permanent teacher proportion qualified in occupation.

Indicator group	General Education Indicators	Indicator group	Vocational Education Indicator
Quality and Social Learning Construction	3.1 Institutions construct, promote, support institutions to be the social learning	Curriculum and Instruction Management	3.1 Numbers of times for the learners to meet advisors.
			3.2 Numbers of times check drug for learners.
			3.3 Percentages of learners drop out school compare to the first enrollment.
			3.4 Numbers of times and kinds of activities promoting academy, morality, ethics, good occupational values including physic and human relationship.
			3.5 Numbers of times and kinds of activities promote environment conservation, custom, tradition, and minister custom art.
			4.1 Numbers of effective activities/projects serve profession and promote knowledge of community

Indicator group	General Education Indicators	Indicator group	Vocational Education Indicator
Institution identity	4.1 To develop institutions to achieve the goal of desirable vision, mission, and strengths	Learner Activity Development	development, local area, and activities of profession training to employ people's profession.
			4.2 Percentages of budget in managing activities/projects serve profession and knowledge of community development and local area and activities/projects of profession training to employ people's profession from all budgets.
Promoted scale	5.1 Manage activities by policy, strength, educational reformation concept to develop and support institutions enhancing higher quality.	Innovation and Research	5.1 Numbers of innovation, artifact, research and project enable to apply in developing instruction employment and community development in local area and country which compete at national level.

Indicator group	General Education Indicators	Indicator group	Vocational Education Indicator
		Innovation and Research	5.2 Percentages of budgets use in constructing, developing, and publishing innovation, artifact, research, and project of all budgets.
			5.3 Numbers of times and media of publishing data, information relating to innovation, artifact, research, and project enable to develop instruction, community, society and country.
		Leadership and Management	6.1 Administration quality of administrators is concurrent with strategy and participation of occupational community by transparency and accountability.
			6.2 Percentages of institutional personnel can perform follow the occupational standard ethics accurately.

B. Concepts and Theories Related to Indicators, Indicator Development

The literature had been reviewed to identify meaning of the term 'indicator'. The review was by no means complete. The role of this review of indicator definitions was not to locate one 'correct' definition, but to help define the key functions that indicators could do, and the way to develop indicators.

1. Definition of Indicators

Indicators are things that identify the conditions or circumstances which took place or have already changed reflected performance characteristics.

Davies (1979) pointed out that indicators are instruments used in monitoring the procedure or characteristic system.

Johnstone (1981) suggested that indicators should only be considered within their current study. Indicators should be changed for new studies if they are not in harmony with the current situation.

Millar & Twing-Ward (2005) defined indicators as something that helps you to understand where you are, which way you are going and how far you are from where you want to be.

Suwimon Wongwanich (2007) pointed out that indicators are displayed condition or circumstances which already occurred or changed or reflected the characteristics of the condition or circumstance.

Sirichai Kanjanawasee (2009) referred indicators to the factors or variables or observable values which tell the status or reflect the characteristic of operation or performance.

In conclusion, indicators mean the factors or variables which display the characteristics or volume of the system process in a period of time whether the

operational factor reach the goals or not. Indicator is not permanent. It can change up to the times, the situations or places.

2. Important Properties of Indicators (Johnstone, 1981)

2.1 Indicator application in the social science could not indicate with 100 % accuracy, but it indicated attributes usefully.

2.2 Indicators were different from variables. Indicators were created by gathering many variables, which were related, to set up new interpretable cases. Indicators pointed out overview or things to measure more widely than specific overview detail.

2.3 Indicators identified quantitative or available data. They were measured in numbers the performance of test elements which were then used to compare with acceptable criteria in high rank numbers or low rank numbers that could be identified and used to create criteria to interpret results of the indicators.

2.4 Indicator values were non-permanent values. They could change positively or negatively through-out times.

2.5 Indicators were standard units of theory development. By gathering broad baseline variables, indicators became relevant tools for implementation in other related research and help other research qualify in proposing theory by applying more variables.

3. Good Indicator Properties (Johnstone, 1981; Sirichai Kanjanawasee, 2009)

3.1 Validity: good indicators can be identified by unique characteristic to accurately measured network accuracy. The indicators can indicate accurately to meet the individual characteristic as bellow

3.1.1 Relevant indicator: good indicators can indicate features that accurately show goals met and are clearly related to the feature.

3.1.2 Representative indicator: good indicators need to truly represent the feature to measure or the views which cover important components.

3.2 Reliability: good indicators can indicate the characteristic to measure reliably and accurately. They indicate accurately under repeated measures made at the same time. Indicators which can indicate accurately with repeated measures have such properties as bellow

3.2.1 Objectivity: Indicators need to indicate objectively. Judgment indicator value should depend on the current status or depend on the characteristics of those things more than it depends on person bias.

3.2.2 Minimum error: good indicators can indicate with a low margin of error. Data collection must be from reliable sources.

3.3 Neutrality: good indicators can indicate in neutrality without bias. No bias to any side, with no direct focus on identifying specific characteristics of success, setback or inequity.

3.4 Sensitivity: good indicators need to have sensitivity to features aimed at measuring. It can show variation or show differences between analyzed units precisely. Indicators required scales and measured units which have enough detailed information e.g. Level of performance indicators should not be a narrow in variation, not perform (0) and perform (1) but it should have a wider performance scale like 0 to level 10 based on the value needed.

3.5 Practicality: good indicators are comfortable to apply and retrieve outputs as follows

3.5.1 Availability: good indicators can apply in measuring or data collecting easily and can collect data from controlling, counting, measuring or easy observation.

3.5.2 Interpretability: good indicators should give a highest and lowest measuring value, be easy to understand and can create judgment criteria easily.

4. Kinds of Indicators

Indicators could be classified with respect to many different kinds of criteria separation; the criteria separation depended on utilization methods and depended on the concept and indicators development, thus, the kinds of indicator separation depended on the plan-makers, administrators, policy-makers, indicator definers, and researchers, considering the sources and indicator usefulness (Johnstone, 1981; Nonglak Virachai, B.E. 2544).

4.1 Classified by theoretical system: indicators in education were classified into three kinds as follow:

4.1.1 Input indicators were indicators which indicated educational system input indicators. E.g. in education, all the students had equal right to attain the class.

4.1.2 Process indicators were indicators which indicated different performance methods of educational systems.

4.1.3 Output indicators were indicators which indicated outputs and impacts which took place in educational systems. E.g. Satisfaction to stake-holders in educational systems.

4.2 Classified by characteristic definition: the process of indicator construction and development might identify indicator characteristics. Different definitions caused the academic categorization to fall into two kinds

4.2.1 Subjective indicators were indicators which were used by novice academics or are imprecisely defined.

4.2.2 Objective indicators were indicators which already defined precisely and did not require academic judgment. These kinds of indicators usually used with performance education and compared with educational systems in international studies.

4.3 Classified by construction methods. This method corresponding to Johnstone (1981). Indicators were divided into three kinds

4.3.1 Representative indicators were the most common form of indicator presently used for research, administrative and planning purposes. They had been created from variables to represent other representative variables which informed characteristics and quality of condition to study. These kinds of indicators were used in early researches but now the utilization had decreased. These indicators had low reliability and low validity because they were used with only one indicator to show the characteristics to study.

4.3.2 Dis-aggregative indicator formed a dis-aggregative set and individually gave very precise information about each element of a system.

4.3.3 Composite indicators combined a number of educational variables by emphasizing empirical dependent variables. These kinds of indicators provided higher reliable and validating information than the above two indicators.

Thus, these indicators were useful to set educational conducting, monitoring, and planning and were very popular.

4.4 Classified by indicator characteristics: to create indicators to indicate characteristics in fostering to develop educational indicators. There were different status which categorized into three parts

4.4.1 Classified educational indicators by measurement order. This method was divided into four kinds-nominal indicators, ordinal indicators, interval indicators, ratio indicators.

4.4.2 Classified educational indicators by sorts of variables. This method divided into two kinds: the Stock indicator showed a state or quantity of educational system in specific time, and the flow indicator indicated states of measurements in educational system outputs in specific time.

4.4.3 Classified educational indicators were classified by statistical variable properties. This method classified them into two kinds: distributive indicators were statistics pointing out the data dispersion and non-distributive indicators which statistical pointing out median.

4.5 Classified educational indicators by indicator value. It was classified into two kinds

4.5.1 Absolute indicators meant indicators which indicated value identifying empirical quantities and its meaning. E.g. Number of teachers used in comparing case of equivalent scale and potential.

4.5.2 Relative and ratio indicators compared values of indicators into quantity values.

4.6 Classified bases on interpreting indicator values. It was concerned with the basic utilization of interpreting the indicator value estimated for a particular educational system.

4.6.1 Norm-referenced indicators were indicators which interpret comparison indicators to education at the same point in time.

4.6.2 Criterion-reference indicators were indicators made in comparison to some stated criterion. They were taken in the same system but at a different time.

4.6.3 Self-referenced indicators were an educational system indicator or variable measured on a particular system in or for a particular time period. They were compared the corresponding value derived from the same system in or for another time period.

4.7 Classified indicators related to state educational system in the form of educational indicators. They were used in administration systems and educational development: especially, in planning and educational evaluation. They could be divided into two kinds.

4.7.1 Expressive indicators were applied to describe the state of educational system.

4.7.2 Predictive indicators were applied to envisage progress of education.

All seven kinds of presented indicators were educational indicators. Beside this, researchers could have another special indicator classification. It was indicator classification by kinds of subjects or concepts. E.g. educational indicators, social indicators, quality of life indicators, development indicators, primary education

indicators, secondary education, higher education, non-educational education indicators etc.

5. Usefulness of Educational Indicators (Nonglak Virachai, B.E. 2544)

The usefulness of educational indicators consisted of 6 dimensions

5.1 Identifying policies, goals of education and ease to control.

5.2 Conducting and assessing educational systems because the data collection was studied in different periods of time. Researcher used this to compare to each other. This would be able to control the state of variation correctly and comparing educational indicator value to the criteria required. This could control and predicted whether the variation reached desired goal and affect the undesired goals.

5.3 Ordering and separating sorts of educational system because ordering educational system in each country or in each region gave an overview to which country or region had a development level lower than the intended criteria and the country should be developed in hurry.

5.4 Providing research to develop educational systems. Education indicators could not give information connected to causal relationships. However, education indicators were useful to future research as a suggestion or research hypothesis for researchers to study the causal correlation between education indicators.

5.5 Taking responsibility to the position and quality assessment. The use of educational indicators in this aspect was the use of new assessment by utilizing direct outputs. All agencies and all levels of organizations set criterion concerning composite outputs and identifying the administration independently; identifying the

performance to reach the outputs as required criterion. Assessment was the responsibility of the colleagues in the unit.

5.6 Identifying the controlled goals. Following multi-step controlled goals educational indicators were developed to use as basic data to measure performance in reaching the desired goals step by step.

6. Constructing and Developing Educational Indicators

The importance of high-quality and credible information about the state of education was highlighted. Indicators showed progress, assessed compliance with various regulations, compared actions with policies and identify concerns and priority issues to address.

From the qualitative or quantitative dilemma, the most difficult test facing those who wished to develop indicators was to understand how indicators fitted together and accomplished their task. There was recognition that there was an inter-relation between indicators, rather than a belief that indicators were discrete variables, which could be considered separately. Only through testing and logically organizing indicators could improve to be available for future sets and their interconnectivity.

As explained in the previous paragraphs, despite the interest and demand for monitoring of educational quality, there were relatively few accounts of the methodological aspects of indicator development. Existing educational quality monitoring literature focused either on the need for indicators, critiques of existing indicators or the results of monitoring activities. The process of indicator development was generally left to the technical skill of the researchers involved and seldom critically examined. The reason for this problem was not only a reluctance to engage in technical and methodological discussion, but it was also a reflection on: the early

stage of development in indicators of education quality, the process complexity and the small number and relative immaturity of the education quality monitoring programs currently in existence.

There were 2 methods of developing indicator (Sirichai Kanjanawasee, 2002).

6.1 Similar variables were relevant to conditions that were grouped in an indicator based on principle performance level of the indicators.

6.2 Constructing indicators depended on the empirical data which enabled analysis and grouping variables by using basic statistical criteria of constructing educational indicators.

Johnstone (1981) concluded that the method of constructing and developing educational indicators consisted of three methods:

1. Constructing and developing indicators by using the pragmatic definition of an indicator was done by identifying a number of available variables or combined variables which could represent indicators or composited indicators, while identifying those indicators, the researcher needed to be careful and had good reasons for indicator construction.

2. Constructing and developing indicators by using the theoretical definition of an indicator was a construction based on selecting a group of variables related to condition or interested attribute and order the variables' specification by identifying variable loading and basic theory. Then, indicator constructor synthesized variables to be indicators.

3. Constructing and developing indicators by using the empirical definition of an indicator were adjusted by empirical data of grouping variable relationship and identifying variable loading or by using basic statistics.

In addition to what was mentioned earlier, Nonglak Virachai, B.E. 2544 pointed out that developing indicators had similar procedures to the procedures of variable study but it had more detailed procedures that could control quality of developed indicators. Generally, the procedure of developing indicators consisted of six procedures- identify the goal, indicator definition, data collection, indicator construction, indicator monitoring, and presenting detailed report in each procedure as follow:

a. Identifying the indicator goals: researchers needed to set in advance that what developed indicators benefit for.

b. Indicator definition led to the method of the next procedure of developing indicators. In the step of defining indicators, there would be same definitions as the definition of general research variables. Researchers should identify the component to construct indicators and the method which researchers combined the component to be indicators. Indicators were divided into two parts

1. Conceptualization: definition in this part was characteristic definition of something we wanted to indicate by the formats or conceptual models of the indicated things which consisted of a separated component in multi-dimension and identified each dimension including concepts.

2. Development of component measurement and construction and scaling: identification in this part was performance component definition by using conceptual models and defining the method of combining components to construct indicators and this definition consisted of three parts

2.1 Defining components or component variables of indicators. Researcher required the knowledge of the theories or experiences. Study related

component variables and relevant education indicators and judged on those component variables that they would be used for selecting variable groups to synthesize and construct indicators by starting from assigning or describing the characteristics of the indicators precisely to the theoretical proposed documents or the comment from the experts to obtain special and basic variables. Choosing high related variables to the same characteristic and high related in general. If two variables were highly related we would not use those variables. Researchers should use only one variable. If a researcher used all those variables, it would lead to the difficulty in future utilization.

2.2 Combination method: researchers needed to select the component variables and select the method to combine those component variables to construct indicators. This way consisted of 2 methods- first was the mathematical combination and second was the multiplicative combination. These 2 methods had their own assumption and different goals of utilizing. The assumption of mathematical combination was the importance of each variable which could represent to each other. The goal was to compare the system to verify the differences and the assumption of multiplicative combination. It was the changing value of one variable base on another one and they could not represent each other. This method used to compare systems to verify that one system had higher level of indicators than the other did and how many times higher or in how many percentages of these indicators differed.

2.3 Loading: component variable combination constructed indicators. Researchers needed to identify loading instead of the importance of each component variables. There were 2 methods to measure component variables 1) Loading the important variables to equal loading and 2) Loading the important

variables to differential loading based on expert judgments. The method used to measure important variables considered time taken or cost of activities which related to those variables or the utilization of the empirical data by statistical analysis.

c. Data collection of indicator development system was component variable measurement performance. For instance, the researcher established equipment to measure, to practice, and to reform equipment until controlling equipment, identification the population and the sampling and field they were ready to study and collect data.

d. Constructing indicators by scaling to enable component variables obtained from data collection to analyze and construct indicators by combining component variables and measuring component variable loading.

e. Monitoring quality indicators was data analysis to monitor the indicator quality which was developed covering the component variable quality by monitoring reliability, validity, feasibility, utility, appropriateness and credibility.

To monitor construct validity of indicators was a method which the researchers applied empirical data to support the hypothesis or theoretical construction. So it should be defined by the characteristics on the theoretical concept to be in the form of indicators or measurable behavior. Also this allowed it to apply the outputs of the empirical measure to verify that it accords with the intended feature or not. There were many methods to monitor and construct validity.

To monitor the indicator quality, which was developed from theory, was the most important thing. Monitoring should be developed base on indicator quality, but sometimes there was no need to verify validity because its validity was related to

performance measurement and theoretical measurement. Researcher could use empirical data to support the hypothesis or construct to theoretical test.

f. Proposing the report, it was the last procedure which was very important because it was the communication between researchers and indicator users.

Educational indicator development followed above procedures would correlate with the objectives of indicator utilization. Usefulness of educational indicator development was based on careful consideration in the development process by accounting for principle theory according to benefit utilization.

Interview

Interview was a conversation or a discussion in a friendly manner with a purpose. Usually, it was between two people and confined to a specific subject. It was a conversation where one person, the interviewer, was seeking responses for a special purpose from other person, the interviewee (Black, 1970; Donaghy, 1984; Gillham, 2000; Deluca, & Deluca, 2004). In interviewing, the interviewer started with the opening shot in order to secure full co-operation from the interviewee, giving him or her every opportunity to feel at ease and to present a fair picture of him or her-self. This includes those who might not be able to readily take part in the research (Anstey, 1977; Langford & McDonagh, 2003). During an interview, interviewers should guide the discussion into a relevant and constructive purpose or provide for more information continuity to make interviewees understand and respond to the interviewers' goals. The form and style of interviews was determined by its purpose.

There were two formats of interview

a. Structured interview meant the interviewer asked the same questions of numerous individuals in a precise manner, offering each individual the same set of possible responses.

b. Unstructured interview meant interviewer used many open-ended questions that were not asked in a precise, structured way.

Interview Principle

Good interview needed to have such components as follow

1. Identified precise interview goals.

2. Prepared precise questions to be the discussion scope.

3. Conducted friendly relation with interviewees to set up simple interview atmosphere.

4. Used easy and precise questions/words.

5. Recorded interview content fast. Sometimes use tape recorders.

6. Did not need to ask the question which interviewee is difficult to answer.

7. Used time effectively.

8. The most specification was interviewer needs to understand the achievement of the interview depending on

8.1 Question used related how much to what interviewer want to know.

8.2 How much the interviewee response to empirical information.

The Benefits and Disadvantages of Structured Interviews

The Benefits

- Enabled the interviewer to establish rapport with the respondent.

- Allowed the interviewer to observe and listen to what interviewee acting or speaking.

- Permitted more complex questions to be asked in other types of data collection.

- An effective method of data collection was when the data collection instrument is long enough.

The Disadvantages

- Wasted of time, money, power and cost.

- Interviewer's experience would effect on reliable data.

- There would be bias between individuals.

- Interview control each time was difficult to audit.

Focus Group Discussion

This paper introduced focus group methodology, gave advice on group composition, running focus group discussion, and analyzing the results. Focus group was a carefully planned discussion or communication between research participants, designed to obtain the perceptions the group members on a defined area of interest or set of issues in qualitative and quantitative literature (Morgan, 1988; Barbour & Kinzinger, 1999; Langford & McDonagh, 2003; Vicsek, 2010; Kitzinger, 1994; Rio-Roberts, 2011). Focus groups were ideal for exploring participants' perspectives, thought, opinions, wishes, and concerns and challenges. In the nature of focus group discussion, participants were encouraged to talk to one another-asking questions, exchanging anecdotes and commenting on their experiences and points of view, thus increasing the richness of the information gained.

Typically focus group discussion should be participated by between five and twelve participants, the discussion or communication being guided and facilitated by a moderator (Langford & McDonagh, 2003, Rio-Roberts, 2011).

Focus Group Components

1. Framed precisely goals we wanted to discuss.

2. Defined variables or indicators relating to the study research discussion.

3. Question concept or question scope was the planned, ordered, and grouped questions.

4. Participant selection could be selected by questionnaires or selection tables depending on researcher's default principles.

5. Focus group members

5.1 Moderator was the participant who carried out the focus group discussion. Moderator was not only a researcher but could also be the people who knew; understood the problems, goals and the sources of questions clearly. This enabled them to ask more questions about the focus group's explanation and/or description (Popham, 1993 cited in Rosnee Binsarmarair, 2006). Effective moderators could prepare and motivate participation to give more information and to participate fully when and where required. Also, face-to-face interaction enabled the moderators to take account of the individual needs or characteristics of the participants and adjust their behavior accordingly in order to encourage information flow (Langford & McDonagh, 2003).

5.2 The interview moderators recorded all interview discussions and also recorded the participants' behavior and acts.

5.3 General Service provider officers were the personnel who catered to discussion group's needs such as served drinking water, food, snacks, tape recorders, tape changer.

6. Data collecting instruments were tape recorders. An interview should have two tape recorders at hand so that recording data could follow each other about five minutes aimed to record missing data while changing new tape recorder. In addition interviews might need chalk, pens, erasers, Etc, in recording interviews.

7. Instruments that enhanced focus group discussion process such as pictures, other tools which help focus group members to understand the problems. Amenities such as drinking water, sweets, and fruits could be available to all interview members.

8. Focus group places should be identified clearly. They should be in a clean, safe, and convenient environment without interruptions.

9. Presents should be given to the interviewees before separating to thank the participants who sacrificed the time for the interview.

10. Focus group performance duration, moderators should use focus group duration of about 90 minutes to 210 minutes.

C. Stufflebeam Checklist

In this research study, the researcher retrieved indicators from many sources to adjust to be used in the Cambodian school context. Thus, the need for appropriate sources for the specific use was very important. Therefore, the way, in the logic of selection, to select the appropriate indicators for the Cambodian school context Stufflebeam Meta-evaluation Checklist was employed. This checklist was the performing process of selecting appropriate indicators for the required program models. It was organized by the need based standards of using.

By meta-evaluation selection, evaluation standards in terms of utility, feasibility, propriety, and accuracy including evaluation efficiency and still use The Joint Committee on Standard Educational Evaluation. Stufflebeam (1999) developed the Program Evaluation Meta-Evaluation Checklist of the joint committee on standards for evaluation such as detailed utility standards (which consists of 7 sub-standards) feasibility standards (which consists of 3 sub-standards) propriety standards (which consists of 8 sub-standards) and accuracy standards (which consists of 12 sub-standards). Thus in this study, indicator selection can always proceed by using one or more of these as setting the standards for the matter that must be covered by, and to some extent how it was covered by, a good selection. But in order to select these lists in their turn. Indicator selection used selection standard in terms of utility, feasibility, propriety, and accuracy including selection efficiency and still used as The Joint Committee on Standard Educational Evaluation.

D. Education Quality Assurance

Review of the historical development of present-day assurance procedures showed that ways were needed to provide valid information that allowed for sound assurance about student progress and school program effectiveness. Sound assurance was based upon systematically collected students, teachers, and administrators' information in maximum quantities. For this reason, measurement and other data-collection procedures became a prerequisite forward indicator of internal quality assurance sources.

1. Concepts Related to Educational Quality Assurance

1.1. Definition of Educational Quality Assurance

Educational quality assurance was special instrument to promote and drive all levels of educational officers' performance and stakeholders to process in harmony toward desirable goals of education as regulated in the National Education Act of Thailand B.E. 2542. Many evaluators defined the meaning of quality assurance in different perspectives. Therefore, assurance meaning accorded to the different experienced definers.

Sowimon Wongwanich (B.E. 2544) defined educational quality assurance as planning procedure and stakeholders who took responsibility in education management for ensuring with societies that they would develop students to reach educational quality standard as curricular required and in line with desirable societies.

Mgijima (2001) defined educational quality assurance as the establishment of processes to improve, monitor, evaluate, and report publicly on school's performance against predetermined goals and agreed outputs.

UNESCO (2007) defined quality assurance as a continuous process of assessing the quality of a basic education systems, institutions or programs. As a regulatory mechanism, quality assurance focused on both accountability and improvement, providing information and judgment (not ranking) through an agreed and consistent process and well-established criteria.

Harman (1996) defined quality assurance as those mechanisms and process used lead to maintenance and improvement of the quality outputs and so to enable key stakeholder to have confidence about quality control procedures in place and the standard achieved in term of outputs.

UNESCO (2007) defined quality assurance (QA) as a generic term used as shorthand for all forms of external quality monitoring, evaluation or review. It might be defined as a process of establishing stakeholder confidence that provision (input, process, and outputs) fulfilled expectations or measured up to minimum requirements.

DGE (B.E. 2542) defined educational quality assurance as an educational development of mechanical process to build confidence and the basic to assure students, parents or guardians, communities, and society that the institutes educated students efficiently. The graduated students had standard quality and accepted by society.

Conclusion, education quality assurance meant a formal guarantee or degree of excellence or concerning effectiveness and efficiency of institutions or the establishment of processes to improve, monitor, evaluate and report publicly on a school's performance against predetermined goals and agreed outputs.

1.2. Importance of Educational Quality Assurance

Education quality assurance is specific mechanism of developing educational quality because it is reliable construction system that can educate qualified standard graduates and they can earn desirable ethics following curricular and social needs. Moreover, educational quality assurance is performance procedures designed to control systems and education methods to meet the required standard to build reliance and satisfaction to parents, communities, labor market, society needs.

1.3. Educational Quality Assurance System

Educational quality assurance is an educational development process to construct satisfaction and reliability to students, parents or guardians, communities,

and societies that graduates have educational quality standards and be accepted from the society by having these basic concepts (DGE, B.E. 2542).

1.3.1 Quality control is a definition on standard quality and organization development to meet the standard.

1.3.2 Quality monitoring is examining and pursuing outputs performance to reach desirable standard.

1.3.3 Quality evaluation is an institutional evaluation.

1.4. Kinds of Educational Quality Assurance (NEA, 1999 and Amendments Second NEA, 2002)

Educational quality assurance establishes quality and educational standard at all levels. It is divided into two categories:

1.4.1 Internal quality assurance means assessment and monitoring of the educational quality and standards of the institutions from within. Such assessment and monitoring are carried out by personnel of the institutions concerned or by parent bodies with jurisdiction over these institutions.

1.4.2 External quality assurance means assessment and monitoring of the educational quality and standards of the institutions from outsiders. Such assessment and monitoring are to be carried out by the Office for National Education Standards and Quality Assessment or by person or external agencies certified by the office. Such measures ensure the quality desired and further development of educational quality and standards of these institutions.

1.5 Internal Institution Quality Assurance

1.5.1 Definition and specification of internal institute quality assurance (DGE, B.E. 2542).

Internal quality assurance means assessing and monitoring of the educational quality and standards of the institutions from within. Such assessing and monitoring are carried out by personnel of the institutions concerned or by parent bodies with jurisdiction over these institutions. Such assessment is a part of administering and educating which causes information reflecting institution performance leading to develop and improve itself to reach intended educational standard goals. Internal institution quality assurance is a procedure which all members of the institutions help each other to plan, define objectives and methodologies. They should process all procedures to control the outputs and to find out the strengths and weaknesses of the institution. Thus, they could improve effective quality assurance to be appropriate to such plans. Internal institute quality assurance has some specific bases as follow

1.5.1.1 To develop educational institutions to reach basic standards in quality of secondary and high schools.

1.5.1.2 To give parents or guardians, communities, societies confidence that educational institutions can process teaching-learning efficiently and graduates have standard educational competency that is accepted by the labor market and society required.

1.5.1.3 To promote to communities and other organizations so that it takes some responsibility of developing educational institutions.

In summary, internal institution quality assurance is a process of preventing inefficient performance which produces non-quality outputs. It has three procedures: controlling, auditing, and quality assessment by using principles and administering system including plan, do, check, action.

1.5.2 Internal institution quality assurance procedure

High quality work in the institution is not something that happens spontaneously, but rather requires the development of skills to help each other to plan, to perform, to audit, to improve and then continuously monitor performance (Matson, 2011; ONEC, B.E. 2543) as showed in figure 1.

DCID (B.E. 2544) recommended that institutions can arrange internal institutional quality assurance systems effectively depending on basic resources and experiences of developing education arrangement:

1. Foster graduates in the institution to know and understand and better perform quality assurance. Educational quality doesn't happen incidentally but it is arranged systematically starting from making strategies, designing curriculum, arranging input factors and administrating to achieve outputs, monitoring, improving, and continuity development. Educational quality is the object of all personnel which are in the management process and needs to perform in all sectors of the institutions. Institution personnel plays important role in inputting knowledge understanding of innovations performed. The awareness training needs to perform to develop educational quality toward desired goals.

2. Development of institutional visions

Vision is the future goals of institution and stakeholders. Students' achievement in community defined to stimulate intended objectives to achieve. Institutions are set up solely for the implementation of the intended regulations by external agencies. Consisting of institution vision will apply unity institutions as a core of performing the parallel direction to reach required visions. Visions need to be

customized or defined to correspond to community requirements and stay tuned to current needs.

3. Information preparation for educational quality of an institution

Information preparation is a construction of information preparation for educational quality of institutional system which can judge, plan and develop educational quality within class levels individually, in classroom level or course and institutional level. Nowadays, almost every institution has basic data of the community, its learners and its personnel that should enable to analyze and help interpret outputs to apply in institutional quality development such as defining visions, missions and objectives. This data will ease format understanding and grouping information systems that will show current institution quality such as factors affecting student learning outputs, student learning times, and teachers, quality of teaching, learning media tools, building, campus, and facility.

4. Developing educational standard in institution level

The Ministry of Education set basic educational curriculum standard to be the objectives of developing national youth. Internal education quality assurance in the level of basic education will build confidence for society that institutions have enough potential to develop learners to achieve outputs by basic educational curriculum standard.

Basic curriculum standard is product standard, achievements of study which related to subject groups that take place in learners themselves. When, they graduate basic educational curriculum they will have a concept of improving, monitoring, taking care, auditing and evaluating and educational quality assurance of the institutions and stakeholders.

5. Educational quality development plan

Development of educational quality plan is systematic procedure which establishes or improves visions, orders task specification, defines format and arranges factors. Planning procedures, in institution administration, are mechanism to create basic factors which support educational quality development. Planning process is the special opportunity which administrators, institution personnel, students' parents, and community study and analyze the view and institution performance such as philosophies, goals, expectations, the basic mission, classical practice and the institution's weaknesses or strengths. All these processes define ways in which foster teaching-learning procedures responding to community and society needs. Accurate educational quality development plans and judgments depend on reliable data related educational quality development which enables us to reach educational reform which is special educational reform policy.

5.1 Evaluating to monitor problems and related needs.

5.2 Promoting goals and ways of arranging teaching-learning process to be in harmony with educational standard in curriculum scope.

5.3 Developing and selecting model or teaching-learning innovations to respond to the problems and needs according to educational standards and a chance for all students to learn and all personnel to participate.

5.4 Arranging a teaching-learning by highly qualified teachers.

5.5 Promoting and developing knowledge, professional capacity for teachers and personnel.

5.6 Developing strategies, methods to foster stakeholder participation.

5.7 Developing data system to evaluate standards.

Institutions need to plan for long-term quality development and yearly development plans that correspond to a school's visions and efforts by utilizing current information to analyze strengths and weaknesses of schools including institutional potential and students', parents' and communities' needs, and define precise development goals each year including define effectively the performance development methods that will reach the desirable goals. Moreover, institutions need to make annual performance plans which define detailed practice (Who takes responsibility, when, how much money use). Institutional quality development plan defines precisely that institutions have some improved ways to apply what method or strategy, how much detail, what to measure and the methods needed to cover the importance of curriculum, teaching and learning, teacher development, organization structure, resource utilization, parents and community participation.

6 Administration system and institution quality management

Administration system and institution quality management are resources used to monitor systems and performance on basic education quality by enhancing judgment of all stakeholders such as teachers, directors and community or by an institutional committee. It starts from internal institutional quality assurance committee to define concepts and institutional quality assurance methods to suggest related institutional quality assurance performance. It consists of professional personnel working on monitoring, reviewing and reporting internal institution quality.

This committee can be an institutional committee. Administrating institution quality needs to enhance all personnel to realize, be aware, and take responsibility for their positions and their tasks which they need to perform to reach

intended goals by monitoring, helping continuity performance to develop more quality tasks.

7 Monitoring and reviewing institution quality

It is separated into two parts

7.1 Monitoring can help to improve work and the efficiency of systematic performance by defining plan scope of monitoring and review how personnel take their responsibility. These procedures should be performed at the end of first term to apply outputs to be basic data of improving performance, evaluation comparison from external agencies. They can be applied to report annual institution quality.

Performance needs to have a committee which has good performance skills by planning, concept working, monitoring procedures, and reviewing educational performance to enhance performance activities of institutional quality development. They need to plan to improve and develop tasks which are normal views of the institution such as teaching and learning observation, learner behavior observation, analyzing students' achievements, interviewing project workers and activities.

7.2 Monitoring and reviewing educational quality by educational province or district officers and participation of study arrangement are monitored and reviewed by external a committee which consists of experts from other departments such as other institutional representatives in the same study zone and the provincial officers and district officers. Monitoring and reviewing quality committee will report to the institution to apply educational quality. Scope of auditing and reviewing internal institution quality assurance:

School visions are a future expected condition which based on the truth indicating to institution activities, precise visions in harmony with institutional policy. Educational quality development plan is a plan in which personnel and stakeholders create systematically, precisely and accurately in harmony with institutional standards and the guidelines for mechanism monitoring and evaluating clearly in auditing and reviewing educational quality development plan which already exist or is newly developed.

1. Teaching and learning are guidelines to manage teaching and learning which base on student-centered.

2. Learning, development and students' outputs are procedures which need to audit. Internal review was continued from instruction management which showed institution quality and enhance students to earn characteristic management which shows institution quality and enhance students to earn characteristics as a desirable standard.

3. Administration enables resources and methods to perform, manage continuity education, consisting of precise structure, system, and standards to meet the goals. Directors need to have good leadership to allow personnel to joint strongly with all perspectives of the institution.

8. National education quality evaluation

National education quality evaluation is students' achievement evaluation by grade level such as primary grade 3, 6 and lower secondary school grade 9 and high school grade 12 in core subjects by applying standardized test.

Preparation	**Implementation**	**Report**
1. Personnel preparation	**Plan**	**Report self-assessment**
-Building awareness	- Define goals and	**or yearly report**
-Knowledge development	educational standard	-Propose evaluation
and skills	-Order goal importance	result
2. Set committee to take	-Define concept to perform	-Analyze follow standard
responsibility	-Default time	-Report
	-Default budget	
	-Default responsible	

2. Do as plan
-Improve and support
-Facilitation support resources
-Audit
-Inspect

3. Check evaluation
-Evaluation scope
-Instrument development
-Data collection
-Data analysis
-Interpretation
-Audit/improve evaluation
quality

4. Act evaluation result to
improve task
-Improve personnel
implementation
-Plan for future
-Information preparation

Figure 1: Internal quality assurance performance procedures (ONESQA, B.E. 2542).

9. Yearly educational quality report

Educational quality development needs high achievement. Therefore, institutions need to take responsibility in teaching-learning process and report students' learning results publicly. This information is useful to plan for come up with yearly quality development and compare with annual outputs to develop level and of long-term quality improvement.

10. Conducting, auditing, evaluation and ameliorating quality systems

Conducting, auditing, evaluation and promoting educational quality systems is a mechanistic part of the system. It can reflect feedback to promote, develop and evaluate efficiency of internal institutional quality assurance performance. It uses special officers, who supervise, audit, evaluate and promote quality assurance systems, like the office of inspector general.

11. Objectives of internal education quality assurance (DGE, B.E.2542).

11.1 To develop educational institutes to reach standard quality.

11.2 To show confidence to parents or guardians, the community and society that educational institution can manage teaching-learning efficiently.

11.3 To promote the institution to communities and other organizations those take some responsibility in developing educational institutions.

1.6 Principle of Quality Assurance

DCID (B.E. 2544) asserted the principles of basic internal quality assurance that educational quality assurance control academic activities, obligations and administrational management which systematically planned and integrated to establish reasonable confidence that graduates are qualified as education standard.

1.6.1 Educational quality in context of quality assurance focusing on satisfaction establishment on both external and internal audiences.

1.6.1.1 Internal quality means knowledge, competency, and attribute of students which build satisfaction to subcontractors on all processes of producing procedures.

1.6.1.2 External quality means satisfaction of macro socio-economic level that point out students' knowledge, competency and attribute.

1.6.2 Educational quality assurance is both educational administration management and aggressive strategy based on planning and preparation before the problems occur.

1.6.3 Educational quality assurance is satisfaction establishment based on foundation's courses, authentic foundation which can be checked by analysis procedures and scientific logic process and be reasonable.

1.6.4 Audition measurement and evaluation results in the context of quality assurance intends to earn feedback for planning continuity quality assurance improvement and it doesn't blame or judge to award or punish.

1.6.5 Designation quality (educational standard, curriculum and teaching plan) and performance procedures (teaching and learning, curriculum, teachers and educational personnel administration) are important components which strive to develop student quality.

1.6.6 Educational quality assurance focuses on knowledge, skill and confidence creation of related personnel in both internal and external institutions to create opportunities for participation in setting the goals and curriculum of the institution.

1.6.7 Educational quality assurance focuses on internal integration between all levels of educational offices and participation of offices and other organizations in the district zones.

1.6.8 Decentralization of leadership and commitment of educational administrators is a key factor of educational quality.

2. Role of Stakeholders in Internal Quality Assurance Development

ONEC (B.E. 2543) asserted that role of stakeholders in internal quality assurance development are as follow:

2.1 Role of Administrators and Related Provincial/District Officers

2.1.1 Principles of provincial or district office

Directors of provincial or district offices of institution are provincial directors, assistants, district officers and assistants who play an important role in internal institutional quality assurance development system. They need to:

2.1.2 Study and develop their own-understanding and understand the importance of educational quality assurance. Moreover, they need to develop knowledge and skills related to leadership in administration and academy.

2.1.3 Be aware and know the value of developing educational quality and educational quality assurance to all personnel in the offices or institutions.

2.1.4 Announce policy and goals of developing educational quality assurance systems in at the district office level and institution levels.

2.1.5 Understand educational quality assurance including internal quality assurance and external quality assurance.

2.1.6 Set scales of supporting and aid to enhance internal institutional quality assurance systems.

2.1.7 Supervise and monitor district officer performance in the form of preparation, internal quality assurance development and external evaluation.

2.1.8 Incise and encourage all institutional members to participate in developing quality assurance systems.

2.2 Provincial office personnel account for academy

Provincial officers are provincial supervisors and district supervisors including human resource development officers who are much needed in developing educational quality assurance systems. They need to:

2.2.1 Study and develop their own-understanding and understand the importance of educational quality assurance.

2.2.2 Understand that educational quality assurance development and educational quality assurance are tasks of every personnel in the organization.

2.2.3 Participate in setting policy and direction in relation to quality assurance system development in district office level and institution level which define direction and policy of those educational quality assurance system developments. District offices need to coordinate with other stakeholders.

2.2.4 Be aware of developing educational quality assurance systems.

2.2.5 Understand educational quality assurance including internal quality assurance and external quality assurance to all personnel in the institutions by defining educational standards, informational system development, and defining goals and visions of the institution.

2.2.6 Make network development, information related to educational quality assurance system development for district offices and institutions that are up-to-date and easy to apply.

2.2.7 Support and promote institutions to be able to develop internal institutional quality assurance by performing in participatory supervision.

2.2.8 Monitor, plan, and control supervision and evaluation of educational institutional quality development performance before screening to external quality assurance from standard office and quality assessment.

2.3 District officers are responsible for service aspects

District officers who are responsible for service aspects take responsibility related to policy, planning, budget, finance, data or information and personnel including provincial level and district level in accordance with the mission bellow:

2.3.1 Support and promote institutions to be able to develop educational quality effectively by allocating budget and resource development.

2.3.2 Supervise, audit and save institutions is a part of budget utilization.

3. Role of Administrators and Stakeholders in Institution Level

3.1 Institutional Administrator

Institutional administrator is person who has very important role in administrating, promoting, supporting, facilitating, supervising and taking care of educational quality assurance system.

3.1.1 Preparation, in this preparation interval, institutional administrators have very important role in driving educational institution quality assurance system development.

3.1.2 Study and self-develop to reach visions, know the importance, and have good mental tranquility for educational quality assurance. In addition,

administrators need to improve themselves in order to be leaders in administrational aspects and academic aspects. They need to enhance themselves to work as leader of precise development which builds reliability, faith and acceptance from all stakeholders.

3.1.3 Development of mental tranquility and awareness of developing educational quality assurance systems. They need to develop institutional personnel by diverse methods of developing mental tranquility which are related to educational quality assurance not only as notation meetings but also as a field trip study.

3.1.4 Understand aspects related to educational quality assurance including internal and external evaluation for institutional personnel. This includes setting educational standards, information development, setting goals and institutional visions, short-term educational quality assurance development planning and long-term educational quality assurance development planning, self-assessment, reporting self-assessment, applying outcome.

3.1.5 Set up committee to perform internal institutional quality assurance system development therefore educational quality assurance system development is the role of all internal institutional personnel including related external agencies, who set internal institution quality assurance role and committee work as network regulation, auditing, saving and supporting in development which can be performed systematically and continuously.

3.1.6 Administrators need to prepare for planning and manipulating internal institution information systems which are for the benefit of internal institutional quality assurance system development and external quality assurance.

Internal institution quality assurance system development performance: More often, institution performance will need PDCA cycle. It has four procedures: planning, practicing, auditing, accreditation and improvement. Administrators have an important role to make administrational systems that can perform PDCA cycle effectively.

Institution administrators are responsible for administrational management, promotion, supporting, monitoring, supervising, and make recommendations to internal institutional personnel who are responsible for teaching-learning management and plan process efficiently. Therefore some plans, administrators need to implement themselves if they related to administration aspect and individual aspect.

Audition and evaluation: while internal institutional personnel are responsible for teaching-learning management and activity management by planning implementation administrators are auditors at all phases including starting, processing and ending of plan. They are also auditors of personnel self-assessment who take responsible in each activity and plan. Administrators are the backbone of the work processes like, setting roles and responsible person, scope of self-assessment, development equipment to evaluate, evaluation implementation, data analysis, reporting self-assessment. All these processes administrators can process in reporting self-assessment to committee.

Improvement and development: while institutions made self-assessment, administrators need to set self-assessment outcome to apply with planning and setting objectives for coming up years, or apply in improving those planned achievements.

3.2 Internal Institution Teachers and Personnel

The role of internal institution teachers and personnel are divided into three intervals:

3.2.1 Preparation: internal institution teachers and personnel play important role in preparing educational quality assurance system development.

3.2.1.1 Study and self-assessment to understand educational quality assurance to establish awareness, see the importance and needs of educational quality assurance systems.

3.2.1.2 Study related theory and concepts of internal institution quality assurance system development by achieving knowledge from external institutional guest-speakers or administrators and some educational experts.

3.2.1.3 Participate with administrators to plan and set up internal institutional information systems such as individual students' information which benefit teaching- learning managements. Instructor needs to foster students to develop their full potential. Other information of the institutions is also important in applying in developing educational quality assurance system of institutions and external evaluation.

3.2.2 Internal quality assurance development performance: internal institutional teachers and personnel play a very important role in institutional administration procedures in the following:

Planning stage: internal institutional teachers and personnel need to participate with administrators and stakeholders to plan educational quality development (long-term and short-term education plan) starting from setting objectives of developing institution quality, setting institutional tasks, and plans and

activities every year. After setting plans, teachers and personnel who are assigned to take responsibility on each activity need to access it and take responsibility for it.

Implementation stage: implementation by trying to collaborate between colleagues, administrators, and stakeholders in promoting and supporting educational quality development of institutions to meet desirable goals. In addition, internal institutional teachers and personnel try to provide comfortable environments and enhance students' learning both inside and outside classroom.

Auditing and evaluation stage: After performing plans, performers need to audit and evaluate self-implementation, self-assessment as intended in scope.

Improvement and development stage: Teachers and stakeholders need to utilize outputs in improving self-implementation and application in upcoming annual educational quality development plans and projects.

3.2.3 External evaluation: teachers and personnel report self-assessment of the institution to external evaluators. They need to study institutional performance including institution information preparation. After, external evaluators evaluate the institution, internal institutional teachers and personnel need to collaborate with external evaluators to get benefits for the institutions.

3.3 Institutional Committee

The office of national education committee focuses on decentralizing education to provincial and district education office level (especially, in the institution level)Decentralization aims to enable schools, parents and the community to participate in instruction management, including auditing school processes, especially, and school committee that has responsibility in educational quality assurance (Kritiya Silsrikul, B.E. 2544).

Institutional committee plays an important role in setting institutional goals and visions by promoting judgment and the decision to accept education performance. The institutional committee is the backbone in collaborating with district organization to strengthen relationship between institutions and communities. It is the main support to educational quality development of the institution by continuity supervision; educational quality development plan, activity performance, and institutional self-assessment include auditing and awareness of institutional self-assessment and institutional development. Moreover, it aims to promote the role of stakeholders with educational quality development in institutions by facilitating communication with the educational committee and external evaluators.

3.4 Parents or Guardian

The search for stakeholder participation in educational quality development is the process of stakeholder participation in education quality assurance system which has been rather limited and poorly conceptualized (Jita, 2006). In response to the argument of Jita, L.C. this point attempts to propose a possible multi-stakeholder-driven model for excellence in educational curriculum development.

Parents or guardians play very important role in setting school goals and visions. They want their children to attend school. They want to keep and be kept in touch with school developments. They also want to promote and support educational quality development of institutions. Institutions are centers for students and family development from perspective, which regard student services as needs and rights for all communities and families. Parents share students' information in educational quality development planning, help plan activity implementation, institutional self-assessment, feedback related to teaching-learning management and students quality of

institution, including awareness of self-assessment outputs of the institution. Parents or guardian can share flexible services and respond to the needs of local students and their extended families. Education and care are indivisible; the early year curriculum offered in these services should develop mentally balanced students. In addition, parents or guardians play important role as informants related to educational quality development of the institution in which they are connected to their children's characteristics.

3.5 Community

Relationship establishment between schools and communities are integral in order to understand each other and participate in solving the communities' problems effectively such as drug problems, outside school student problems etc. Establishing relationships between schools and communities can help to reduce misunderstandings and cruelty between schools and communities. For example, parents pay more attention in sending children to schools. Relationships can reduce some misunderstandings related to school performance (Kritiya Silsrikul, B.E. 2544).

Communities play an important role in setting institutional goals, the promotion and support of continuing educational quality development starting from educational quality development plan, teaching-learning management. This includes community learning resources which include awareness of reporting institutional self-assessment and institution improvement and development in which the community participates in institution management. Sometimes, institutions attain donations (strength and budget) from communities which benefit institutional study management.

ONEC (B.E. 2543) mentioned the role of stakeholder in internal quality assurance as follows:

Administrators played a role in management to support, to facilitate, to supervise, and to manage internal quality assurance. Administrators were the backbone in planning projects including audition implementation as the plan of self-assessment which applied institutional improvement and reported outputs publicly.

Students, parents, and guardians participated in quality assurance and institutional study management by giving ideas, giving data related to students and giving feedback related to teaching and learning management of institutions including institution self-assessment results. They participated in strengthening quality assurances to apply assessment outcomes for institutional development.

Communities participated in thinking and implementing, giving and utilizing data to reach required goals and to develop plans by auditing, evaluating, and improving institution.

Districts and supervised office provided assistance in academy and supported resources including institutional audits to develop quality and to reach institutional development plans and educational standards.

Mass media played a role in public relation and supports internal institution quality assurance performance. It also published data creatively to achieve internal quality assurance.

As shown above indicated that internal institution quality assurance consisted of many stakeholders such as all levels of institutional administrators, institutional teachers and personnel, school committees, students, parents, guardians,

communities and mass medias. All agencies collaborated to plan and implement student quality development.

E. Cambodian Educational Quality Assurance

In a knowledge society education and training were ranked among the highest political priorities. Obtaining and continuously updating and upgrading a high level of knowledge, skills, and competencies is considered a main factor for the personal development of all citizens and for all participation in all aspects of society from active citizenship through to labor market integration.

1. Educational Background

Traditional education in Cambodia was conducted by the local wat (pagoda), and the bonzes were the teachers. The students were almost entirely boys, and the education was limited to memorizing Buddhist chants in Pali. During the period of the French protectorate, an educational system based on the French model was inaugurated alongside the traditional system. Initially, the French neglected education in Cambodia (RKC, 2006).

From the early twentieth century until 1975, the system of mass education operated on the French model. The educational system was divided into primary, secondary, higher, and specialized technical and vocational levels (Seng, 2007). Primary education, divided into two cycles of three years each, was carried out in state-run and pagoda-run schools. Successful completion of a final state examination led to the award of a certificate after each cycle. French language instruction began in the second year. Khmer was the language of instruction in the first cycle, but French was used in the second cycle and thereafter (ADB, 2003).

During Pol Pot's communist regime (1975-1979), there were no schools or any forms of education. All schools and universities were then closed and allowed to fall into disrepair. School buildings were often put to other uses such as storehouse for grain and livestock or as prisons (Seng, 2007). The 1990s saw a period of emergency relief and reconstruction, with heavy dependence on external assistance from donor agencies and nongovernment organizations (NGOs). Recognizing the need for improved coordination of external assistance, the government approved an education investment plan 1995-2000 (ADB, 2003). Primary school ran from the first to the fourth grade. Theoretically one primary school served each village. Secondary education also was divided into two cycles, one of four years taught at a college, followed by one of three years taught at a lycée (high school). Upon completion of the first cycle, students could take a state examination. Successful candidates received a secondary-diploma. Upon completion of the first two years of the second cycle, students could take a state examination for the first baccalaureate, and, after their final year, they could take a similar examination for the second baccalaureate (MoEYS, 2003). Cambodian education system changed three times-After 1979, 10-year education system (primary school 4 years, secondary school 3 years, high school 3 years) or (4+3+3) and in 1986 it was expanded to 11 years (5+3+3) and the last changed in 1996 12 years (6+3+3). In this last system, pupils need to take final national test only in grade 9 in order to earn their high school credit. They take another state exam in grade 12 in order to be awarded a baccalaureate (Seng, 2007).

2. Quality Assurance

Quality assurance has become a central objective of governmental policies and an important steering mechanism in education systems. Despite differences in the size and stage of development of education sector, many governments have decided that traditional academic controls are inadequate to today's challenges and that more explicit assurances about the quality are needed. Undoubtedly, quality has been the central concept and the major focus of institutions and governments in the field of education. Some countries now have set up national quality assurance standards or are in a process of doing so.

The establishment of quality assurance policies and mechanisms in some countries took place in a political and governmental environment characterized by a changing relationship between the state and the institutional field. To respond to this statement, in B.E. 2543, Cambodian government began to reform education seriously by using various criteria. In addition, educational reformed praised people to enroll more widely. During that time, Cambodian Prime Minister, Hun Sen, claimed that the development of education, the quality, and the development of human resources became powerful and were special concerns which improved Cambodian semi-skilled- and skilled-workers (RGC, 2003; MoEYS, 2006). Despite improvements and achievements in Cambodia's education system brought about by reforms and increased government spending since 2001, significant concerns and challenges persisted which were related to access and quality. This was particularly the case for those residing in remote and rural areas, and those marginalized by poverty, ethnic minority status, religious inclination, or gender. The USAID-funded Improved Basic Education Program in Cambodia Program (IBECP) sought to address these issues of

access and quality through an approach that emphasized holistic programming, stakeholder-driven development, and improved educational relevance and management. In order to support this concept, MoEYS's philosophy was to assure that all Cambodian children and youth have equal opportunity to access quality education, regardless of social status, background, ethnicity, religion, language, gender, and physical background. The ministry expected that after learners graduate, they would meet regional and internal standard and would be competitive in the job market worldwide and act as engines for social and economic development. Moreover, to respond to this concern MoEYS's vision shown that it established and developed human resources of high quality and ethics in order to develop a knowledge- and skill-based society within Cambodia, that there is continuous improvement and the educational system inspires confidence in both audiences and management that quality objectives are met. Its mission was to lead, manage and develop the education, youth, and sport sector in Cambodia by responding to the socio-economic and cultural development needs and the reality of globalization by providing an educational service efficiency program (RGC, 2005). Afterward, the Royal Government and MoEYS paid more attention to improve and adjust the quality of education by providing incentives to teachers, developing curriculum, providing basic books, encouraging outstanding students, training teachers, upgrading teaching methodologies, improving class room conditions and learning materials, and establishing libraries and laboratories. In order to ensure equitable opportunity the government and MoEYS have continued to give more opportunity to poor students by eliminating informal payments by parents especially in grade 1-12, establishing dormitories for students- especially female students, to build schools for all levels,

particularly in rural and remote areas, and to increase scholarships for poor students. The government and MoEYS also continued to train qualified teachers in adequate numbers and effectively implement teacher deployment policy. The government and MoEYS encouraged teachers who worked at primary and lower secondary schools and who had obtained bachelor degree at any age to take an exam to become high school teachers; and allowed primary teachers who did not complete high school to take an exam to obtain equivalent certificate of high school graduation. It provided them an opportunity to study at the bachelor level as well as post-graduate levels and increased their basic salary (RGC, 2005; MoEYS, 2010).

The Royal Government and MoEYS have reinforced its partnership with the private sector and the national, regional, and international communities in order to enhance and improve the quality of educational services by paying more attention on information and foreign language training at all levels of general education, technical and vocational training, and in higher education as well as be consistent with international standards and the country's development demands. In addition, the government and MoEYS paid more attention to technical and engineer training through technical and vocational training schools and higher education and the government will expand 5 general and vocational high schools in 2013-2014 with highly technical and scientific skills that effectively respond to labor market demands in terms of entrepreneurship, high creativity, responsibility, discipline, morality, virtue, professional ethics, and honesty, in an effort to promote development. In order to eradicate the gaps between demand and supply for jobs, the government and MoEYS continued to implement vocational training policy which linked labor markets to relevant stakeholders (ACC, 2003; MoEYS, 2010).

To sum up, MoEYS and Royal Government of Cambodia have taken steps to strengthen quality by introducing new requirement or mechanisms of instruction management. It means that they have paid much attention on input elements. Thus, significant concerns and challenges persist which are related to the process and quality. Then, they have evaluated learners with final national examination (paper-pencil test) to judge learners' achievements.

3. Kampong Chheuteal High School Education and Quality Assurance System

3.1 School History

Kampong Chheuteal High School was situated in Sambor village, Prasat Sambor District, Province of Kampong Thom, the Kingdom of Cambodia. The Thai-Cambodian Joint Commission appointed as the Joint Ad Hoc Working Group had undertaken the mission by following Her Royal Highness Princess Maha Chakri Sirindhorn's concepts for the operation of the school as the ultimate goal. Her Royal Highness Princess Maha Chakri Sirindhorn visited the Kingdom of Cambodia several times to study its archeology and history because she acknowledged the country as a learning resource to the civilized world. To come away each time, people of this country would be waiting to greet their majesties with courtesy. Therefore, Her Royal Highness Princess returned the friendly hospitality of the Cambodians. In recognition to the kind hospitality of its people, Her Royal Highness Princess thought that giving other presents would only benefit Cambodians temporarily but not be sustainable as the provision of education which was the source of knowledge. The gained knowledge would be increased two times. Both teachers and students would apply their knowledge to help develop the Kingdom of Cambodia to progress further.

Kampong Chheuteal High School was built under her Royal Highness Maha Chakri Sirindhorn's concept and donation on the 17 of May 2000 and the Cambodian government was responsible for providing the site for the school, assisting, supporting and coordinating for the constructional techniques (Kampong Chheuteal High School, 2005). Moreover, Her Royal Highness Maha Chakri Sirindhorn has given her expertise in the educational performance management. Her Royal Highness Princess believes that education was very important and it could help develop societies and consequently the world. Her concept was that…

"…Education provides the opportunity to choose, the opportunity to choose peace. Without the job skills necessary to secure a reasonable quality of life for them and their dependences, refugees face hard time and are forced into circumstances that might cause trouble for others..." (Her Royal Highness's speech in the meeting of UNESCO Geneva, B.E. 2545).

Her Royal Highness Princess's speech at the meeting of Thai and Cambodian committee in Soun Chelda Palace, in B.E. 2548 was "I am satisfied that Kampong Chheuteal High School has processed its work for a segment. Both Thai and Cambodian committee have performed their tasks which have been satisfied. I want to participate in educating Cambodian youth who have good potential. If they are good educated and trained, they will be useful for themselves, for Cambodian and global society continuity". Her Royal Highness Maha Chakri Sirindhon expected from those learners of Kampong Chheuteal High School that

1. Learners have academic knowledge which is capable to apply that of knowledge to set up business or to be able to perform other works and to be able to continue to study.

2. Learners have good ethics, honesty, and to be ready to help other people.

3. Learners have good physical health; they are able to perform other work perfectly.

4. Learners are able to manage organization effectively, especially; they should come to help to drive Kampong Chheuteal High School continuity. They should not give this school up. Her Royal Highness Princess Maha Chakri Sirindhorn expected that these youths will have good opinions and vision to develop this duty to be fruitfully which benefits to everyday life and to develop Cambodia continuity.

Today, Kampong Chheuteal High School is ready for personnel, buildings, books, media, educational curriculum and system infrastructures which can manage teaching-learning process and other activities in various formats which focus on practices that make professionals increase their incomes and develop the community and society (The Princess' school board, B.E. 2548).

3.2 Educational and Quality Assurance System

The term "quality" is often used in a vague, blurred way. Quality is essentially about learning what you are doing well and doing it better. It also means finding out what you may need to change to make sure you meet the needs of your service users.

Kampong Chheuteal High School was constructed to respond to the needs of community and society (Kampong Chheuteal High School, 2005). As the vision of this school shown that, "Kampong Chheuteal High School is an excellent school to develop community and society".

To respond to the four concepts of the princess and school's vision, the Princess Maha Chakri Sirindhorn has supported Kampong Chheuteal High School in

order to conduct a dual system education: 1). General secondary education which runs from grade 7 to grade 12 is based on Cambodian curriculum and adds more new skills which benefit limitations and the possibility of the school's status to provide technical knowledge and the ability to help students have basic skills so that they can hold jobs. 2). Vocational education certificates in four disciplines: electronics, electricity, animal husbandry, and agriculture. The programs are operated in an integrated whole system with the development of the quality of life and environmental protection. As for education, the Princess has a firm belief:

"I've learned since my childhood that educational development and knowledge dissemination are key factors to develop a country. Besides, educational distributors can make merit." (Kampong Chheuteal High School, 2005).

Her Royal Highness established a sustainable gift: a learning resource center for the Cambodians. The number of graduates has been multiplied and then the number of teachers and students could apply their knowledge to develop the Kingdom of Cambodia that should progress towards sustainability.

As for the preparation of educational management, supervision, and curricular development for the school, the Committee of the Development of Educational Quality and the Quality of Life has collaboratively and constantly fulfilled tasks in many aspects under the administration led by the faculty staff of the Faculty of Education, Chulalongkorn University. The educational management is arranged as stipulated by the Kingdom of Cambodia, but several trainings, seminars and workshop were held in Thailand for the school management and teaching staffs that designed the utilities, heavy equipment, teaching-leaning processes, teacher trainings, and the other general and vocational activities. The organization formed

varied several trainings and seminars, field trips to various schools, workshops for educational technology to produce teaching materials or instruments and media, assessments and evaluations (Kampong Chheuteal High School, 2007).

During academic year 2007-2008, the a committee from Faculty of Education, Chulalongkorn University tried to develop internal quality assurance indicators for evaluating the school teaching-learning processes consisted of 4 standards and 8 indicator groups which specified on students', teachers', and directors' role in conducting the teaching-learning processes (Kampong Chheuteal High School, 2008).

To strengthen the quality of teaching-learning procedures, school committee produced national test-answer books in all kinds of subjects for grade 9 and 12 students and allowed them to borrow the books during study courses. Moreover the school committee hired teachers to teach extra hours for students in order to enhance students' achievement and vocational short courses which were offered to all the students each year by the experts from Thailand (Kampong Chheuteal High School, 2009).

To strengthen the quality of the school staffs, Her Royal Highness Princess Maha Chakri Sirindhorn has given scholarships to almost all the school personnel in order to obtain higher degrees. So far, there have been 8 associate degree awarded and one master degree and another 49 associate and bachelor degrees, 4 master degrees, and 2doctorate degrees will be awarded in 2013, (Kampong Chheuteal High School, 2011).

For every training and seminar, the Committee and the school board followed the Princess's mandate that one might understand the framework and

potential of the condition of the location and educational management. The addition of subject matter and the curricula might be compatible to the location. Consequently, the operation for the royal contribution might comply with such royal determination in all aspects-the curricula, teaching methodology, innovational technology and evaluations (Kampong Chheuteal High School, 2007).

In conclusion, all related stakeholders paid more attention on input, process, and output of school component, but the process of following up of those of components rarely took place, thus, finding out what school may need to change to make sure school meet the needs of its service users. School and MoEYS applied final examination (paper-pencil test) to judge learners' outputs and achievements. Thus, the efficiency of process was tangled with deteriorated quality.

Related Previous Research Studies

The presentation of related previous research studies were categorized into two parts: 1. Research related to Kampong Chheuteal High School which connected this school to other general basic state schools. 2. Research related to indicator development which found out methods, techniques of developing indicators to be the concepts, and applying methods and techniques of the current indicator development.

1. Research related to Kampong Chheuteal High School

Since 2000, there were 3 research studies about Kampong Chheuteal High School.

a. Teaching-learning management

There were two studies that had resulted in teaching-learning management which included students' achievement and students' behaviors. Therefore, teaching-learning management differentiates from classical thought and

enhanced students' motivation in study and enhanced improvement of students' behavior and achievement (Kimcheang Hong, 2010). This included a study about teaching activity. The study used media based instruction on grade 11 students' English learning achievement and showed students having more motivation and success. Thus, teachers enabled teaching plans which had teaching activities in media-based instruction in regards to English content especially, with the low motivation of pursuing achievement students. After, a study of outputs of proposed guidelines for utilizing community learning resources in social study instructions in secondary schools showed that teachers had more motivation in using social study instruction outside the classroom to attract students' interest in study (Chantheng Meak, 2010).

b. Academic development aspect

There was a research on this aspect (Seang Pech, B.E. 2548) from, a study about the scenario of Kampong Chheuteal High School showed that background and the school performance process project, since B.E 2542, supported by Her Majesty The Princess Maha Chakri Sirindhorn and understanding the current context and the problems of educational management procedures which helped to show the future efforts and could present the future performance creatively.

2. Research related to indicator development

As indicated above studies, the research related to indicator development showed that there were many studies including qualitative and quantitative research. Thus, there were many techniques of data collection and development of indicators.

2.1 Quantitative research

Quantitative research of developing indicators was the study to attain detailed data by case study (Nuchsiri Konlaw, B.E. 2545; Kritiya Silsrikul, B.E. 2545)

which divided into two intervals: pre-field study was related to documentation and research study such as interview experts, selection case study, and field-study duration. Data collection processed by participating in observing academic and nonacademic interviews. Thus, the instruments were observed features, interviews and questionnaire format. After attaining data needed to verify data consistency, both validity and reliability were utilized triangulation methods (auditing data aspect, theoretical aspect and data collection) (Nisa Choto, B.E. 2540 cited in Nuchsiri Konlaw, B.E. 2545).

2.1.1 Data triangulation was an experimental technique showing that data, attained by researcher, was consistent or not. Auditing the source of data, depend on time period, field and personnel.

2.1.2 Theory triangulation was an audit where researcher utilized concepts; theories to differentiate from the original theory or concept which would judge how much data bias persisted.

2.1.3 Methodological triangulation was a data collection method of document analyzing, observations and interviews to collect the duplicated data.

Data analysis attained by interviews and observations were concluded by analytic induction format which was a conclusion from concretes or phenomenon. They were used for content analysis and in some cases, if they were not all observed data, they were analyzed by data separation which was partial data such as treatment, activity, definition, and correlation to show that those situations persisted activity that caused the treatment which consisted meaning under the interval and correlation of each situation (Nuchsiri Konlaw, B.E. 2545; Kritiya Silsrikul, B.E. 2544).

2.2 Qualitative research

Qualitative indicator development research was selected by possibility and setting sampled by the Yamane table (Yamane, 1976) (Rathanaporn Kraithavorn, 2002; Nuntini Pummarin, 2003; Thirawat Luanrit, 2009) and selected sampling by utilizing purposive sampling (Chulalak Kunthabut, 2001; Settaporn Norkham, 2005) and the instrument used in questionnaires (Chokchai Sirinopmanee, 1998; Rathanaporn Kraithavorn, 2002; Nuntini Pummarin, 2003; Tunyung Witayanonta, 2004; Rosnee Binsamaair, 2006). Most of the questionnaires were designed to measure the opinion and the seriousness that was not yet known. The advantages were expense reduction and ease in analyzing data with large sampling groups and also ease in concluding the results (Rathanaporn Kraithavorn, 2002; Chokchai Sirinopmanee, 1998), but there was the difference in attaining procedures of questionnaire and data collection methods.

Synthesizing indicators from documents and related submitted researches to a thesis advisor to audit propriety and component and indicator consistency to construct a questionnaire and audit the instrument by questionnaire try outs, so that the commands and questions did not have ambiguity (Rosnee Binsamaair, 2006).

After the study of documentation and related previous research, researchers constructed questionnaires by using the Delphi technique in selecting indicators and criteria. Researchers also used paired-weighting procedure (PWP) ordering specification of dimension and component indicator and criteria with experts. Data collection used questionnaires to collect data to score indicators within an institution and audited instrument quality by presenting it to thesis advisors and

experts to check dimension, components, indicators, and criteria coverage as well as correcting language use (Chulalak Kunthabut, 2001; Chokchai Sirinopmanee, 1998).

A study of documentation and related previous research and interviewed stakeholders enabled researchers to construct indicators by having group discussions using focus groups to find data conclusions attained from interviews and set questionnaire construction. It was audited by thesis advisors. Questionnaires were submitted to experts to check content validity, propriety and concurrence of indicators. Questionnaire try out was conducted to verify instruments by analyzing to find reliability using Cronbach' s Alpha Coefficient and were sent to field study by the post office (Rathanaporn Kraithavorn, 2002; Rosnee Binsamaair, 2006).

A study of documentation and related previous research set indicator scope. Experts audited propriety, concurrence and content validity of component and indicators. Researcher applied to construct questionnaire by thesis advisor auditing question propriety and tried out questionnaire to check instrument quality by using Cronbach's Alpha Coefficient and sent the questionnaire through the post office (Rachadaporn Suraluet, 2002; Tunyung Witayanonta, 2003).

A study of documentation and related previous research used exploratory factor analysis to construct questionnaire. The questionnaire was analyzed by utilizing Cronbach's Alpha Coefficient (Anupab Thungpheakdee, 2000; Settaporn Norkham, 2005).

As previous researches above had shown, quantitative data analysis was a basic statistic in analyzing such as Mean, Standard Deviation (SD), co-efficient of variation. In addition, exploratory factor analysis was also used (Rathanaporn Kraithavorn, 2002; Rachadaporn Suralert, 2002) Confirmatory factor analysis

(Anupab Thungpheakdee, 2000; Rathanaporn Kraithavorn, 2002; Rosnee Binsarmaair, 2006).

Research conceptual framework 1
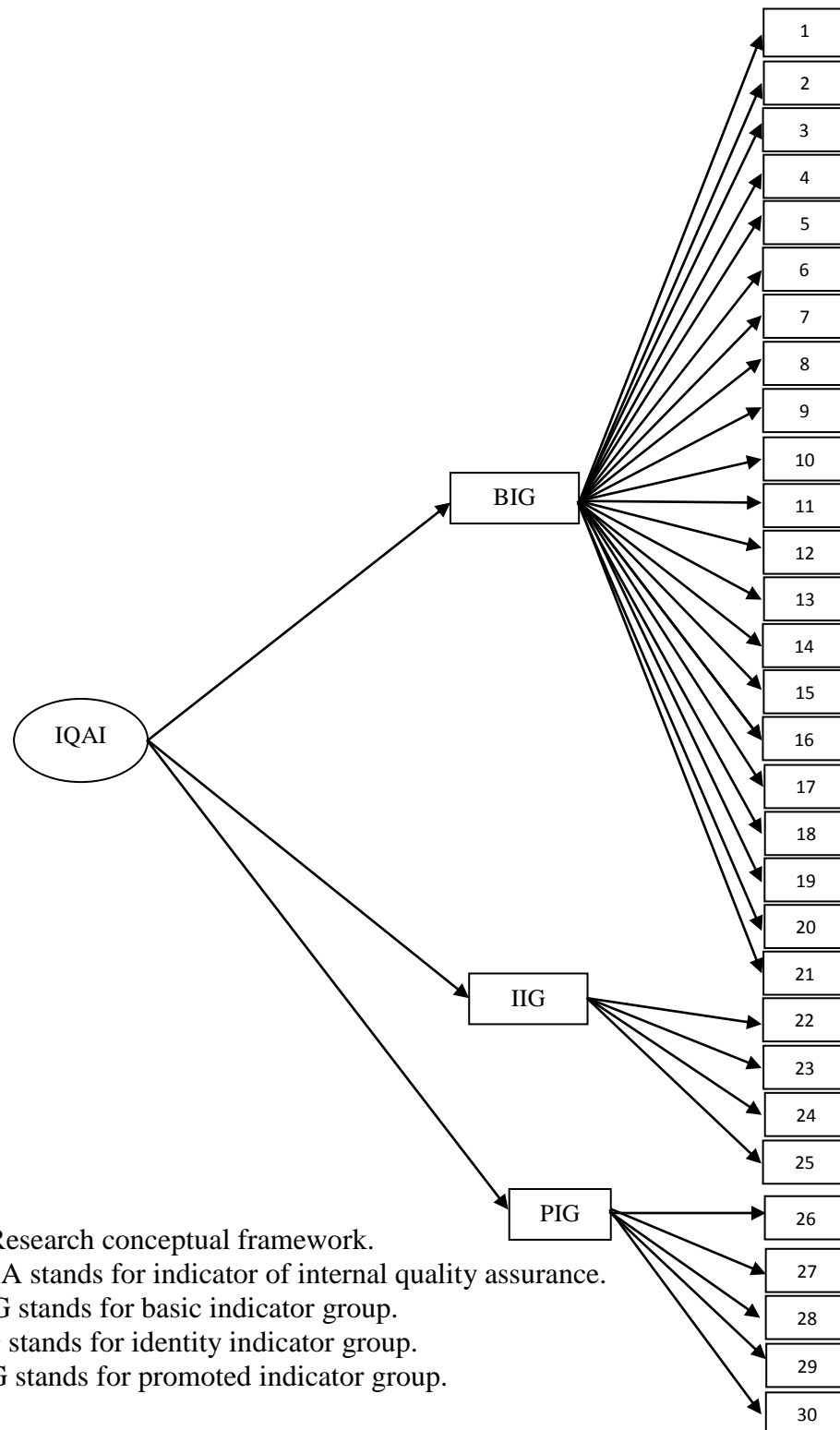
Figure 1: Research conceptual framework.
Note: IIQA stands for indicator of internal quality assurance.
        BIG stands for basic indicator group.
        IIG stands for identity indicator group.
        PIG stands for promoted indicator group.

CHARPTER III

RESEARCH METHODOLOGY

Research Design

     This research study was examined by Stufflebeam Checklist (1999) and SPSS analysis (Mean, Standard Deviation, Kurtosis, and Skewness) on information obtained from interviews and focus group discussions and questionnaires. The dependent variables of the study were indicators retrieved from the process of expert interviews and focus group discussions among teachers, parents, and students; the indicators for internal quality were proposed in the school providing both general and vocational education systems, Kampong Chheuteal High School.

Context of the Study

     This study took place in Kampong Chheuteal High School, which is currently the only Cambodian state run dual system school established in 2000 by Her Royal Highness Princess Maha Chakri Sirindhorn with the cooperation of the Royal Cambodian Government. The school has been under the supervision of the Prasat Sambor district educational office. It is located in Prasat Sambo district, Kampong Thom province.

Population and Samples

     The population for this research study were, the director, vice directors, groups of teachers, parents, and students who work, taught, and studied at the school providing both general and vocational education systems, Kampong Chheuteal High School in the 2011-2012 academic year, selected. The checklist of Stufflebeam, interview form, focus group discussions questions were employed; then applied

indicators retrieved from the selection to create a questionnaire and to collect data from samples. The samples were the director, vice directors, teachers, parents and students; they were purposively selected due to their background, thought, and willingness of participation in the research study. All the samples were chosen because the director, vice directors, teachers, parents and students worked, taught, lived and studied in the school providing both general and vocational education systems. They knew the community, the school view and school context well.

Research Instruments

There were 4 kinds of instruments in data collection- structured interview forms, focus group discussion questions, Stufflebeam Checklist, and questionnaires. These 4 instruments were administered to collect information in order to obtain experts' thought and opinion on indicators of internal education quality assurance. The time allocation of each expert interview was approximately two hours and the focus group discussion was taken approximately three hours. The validity of the instruments utilized in the research examined by educational experts (content-validity).

Table 3.1

Research instruments

Instruments	Objectives	Time of Distribution
Structured interview form	Insist experts to show the interest and opinion about the indicator of internal quality assurance for Kampong Chheuteal High School.	Two hours each expert.

Instruments	Objectives	Time of Distribution
Focus group discussion	To discuss about the indicators of internal quality assurance between parents, teachers, and students.	Three hours each group discussion.
Stufflebeam Checklist	Ask experts to select the principle appropriate indicators of internal quality assurance for Kampong Chheuteal High school.	Two hours for each expert.
Questionnaires	Director, teachers and students in Kampong Chheuteal High School will be asked to answer the questionnaire about the indicators of internal quality assurance.	60 minutes was allowed to deal with questionnaire.

To verify the instrument quality

1. Researcher studied documentations and previous researches relating to indicator development in consecutive acceptable criteria of the last 2 rounds of internal quality assurance indicators of OBEC and 3 rounds external quality assessment of ONSEQA's indicators. Researcher also studied the indicators of internal quality assurance of first round of Kampong Chheuteal High School and indicators of educational quality assurance of the Ministry of Education Youth and Sport of Cambodia.

2. Research instrument development was a process of interviewing; focus group discussion, Stufflebeam Checklist, and questionnaire utilization which were

appropriate for selecting ONSEQA's and OBEC's indicators to implement in the context of Kampong Chheuteal High School.

3. Submitted the research instruments to thesis advisor to the appropriateness of research instruments.

4. Researcher translated all research instruments from Thai into Khmer language. Afterward, researcher asked 3 experts who know both Thai and Khmer well to check the validity of the translation. Afterward, the 3 experts checked the validity of the translation, researcher asked 3 Khmer literature teachers to check and adjust the appropriateness and concurrence of wording.

Research Procedures

Table 3.2

Research procedures
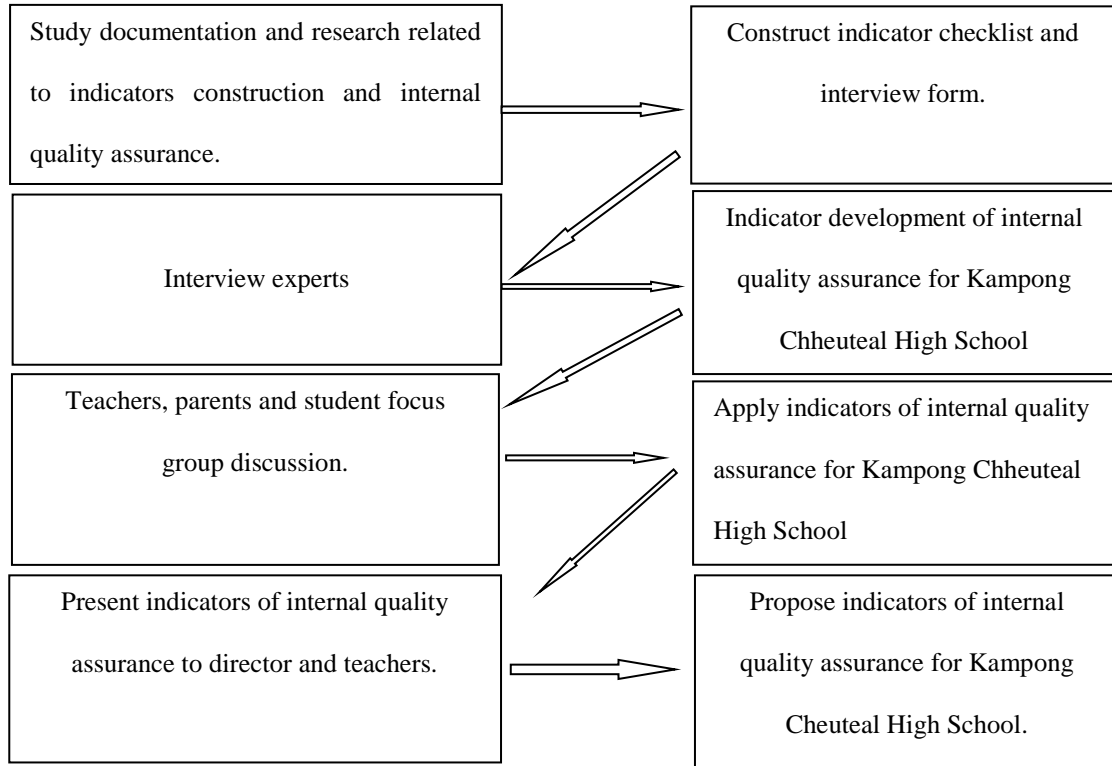
As shown in the diagram, the researcher presented more detail about research procedure.

An indicator development of internal quality assurance of the school providing both general and vocational education systems in this research was divided into four phases: study related documentation and setting the indicator scope of the internal quality assurance, interviewing experts, focus group discussion with stakeholders, implemented and proposed indicator model of internal quality assurance in Kampong Chheuteal High School.

First Phase: A study related documentation and setting the scope for the school providing both general and vocational education systems.

The researcher studied various related documentation such as concepts and theories related to educational indicators, standards, and acceptable criteria to evaluate external and internal quality of both general and vocational education systems (ONESQA, B.E. 2553; OBEC, B.E. 2553; OVEC, B.E. 2553), and first round of Kampong Chheuteal High School indicators of internal quality assurance (Kampong Chheuteal High School, 2005). The researcher also searched for Royal Government of Cambodia Legislatures, Cambodian education strategy plans and instructional curriculum, the instruction views (MoEYS, 2010). Moreover, researcher studied general views of Kampong Chheuteal High School to scope the indicator development of internal quality assurance.

Second phase: Expert Interview

This research aimed to obtain more detailed indicators of internal quality assurance of the school providing both general and vocational education systems by using some experts such as school director, vice-directors.

The interview processed with 5 experts as follow:

    1. One school director.

    2. Four school vice-directors.

Third phase: Focus Group Discussion

Focus group discussions in this research were divided into 5 groups: 2 teacher groups, 1 parents group, and 2 student groups of Kampong Chheuteal High School. They were used to conclude what the researcher found during expert interview and it was also used to confirm the accuracy and conclude the data related to indicators for the school providing both general and vocational education systems. In this focus group discussion, researcher asked the focus group members to show their opinion and recommendation. Thus the researcher selected focus group discussion members purposively from the school providing both general and vocational education systems. The following table would tell the number of focus group discussion members.

Table 3.3

Number of the focus group discussion members

Group	Focus group discussion size	School	Number of focus group discussion participants
Teacher group 1	5-12 people	Kampong Chheuteal High School	6 people
Teacher group 2	5-12 people		7 people
Parents group	5-12 people		7 people
Student group 1	5-12 people		8 students
Student group 2	5-12 people		8 students

The following sentences were the procedures of indicator development of internal quality assurance of the school providing both general and vocational education systems:

1. The researcher contacted with experts to suggest for interviews related to indicator development of internal quality assurance of the school providing both general and vocational education systems. The researcher set the date and time for interview face to face with experts.

2. The researcher brought an interview permission form released by educational research and psychology department, faculty of education, Chulalongkorn University to the experts before interview date.

3. Before the interview date, researcher submitted standard and indicators of internal quality assurance of OBEC, indicators of external quality assurance for general education of ONESQA, and indicators of external quality assurance for vocational education of ONESQA to educational experts following day researcher interviewed related to appropriateness, adjusted indicators and acceptable criteria to submit possible indicators in the school providing both general and vocational systems by using structural interview form (as shown in appendix 4).

4. During interviews, the researcher contacted with focus group discussion members by phone to set the date for the discussion with permission forms.

5. During focus group date, researcher submitted the interview result to teachers, parents and students of the school providing both general and vocational education systems to summarize and confirm with all those indicators. But if the opinion of interview experts and focus group discussion were not concurrent with the school context, the researcher brought those indicators to discuss with other experts who were not interview group members and focus group discussion members to summarize and confirm.

6. After the 5 focus group discussions, the researcher analyzed expert interview content and focus group discussion content to develop indicators in harmony with internal quality assurance of the school providing both general and vocational education systems.

A development of indicator questionnaire for the school providing on both general and vocational education systems

A development of indicator questionnaire for the school providing both general and vocational education systems were divided into 3 phases- a development of indicator questionnaire and validate the questionnaire quality, data collection, data analysis as detailed bellow

A development of indicator questionnaire and validation questionnaire quality

Questionnaires about indicators, standard and acceptable criteria were used to assure internal quality for the school providing both general and vocational education systems which was used in this research depending mostly on concept, educational standard, indicator of OBEC, ONESQA, and OVEC for internal and external quality assurance on education for the third round assessment (B.E. 2553-2558).

After the conclusion on focus group discussion, researcher analyzed expert interview concepts and focus group discussion concepts to apply them to develop rating scale questionnaire (5 Likert Scale) to check each indicator level in terms of appropriateness and possibility in data collection. Researcher assessed internal quality for the school providing on both general and vocational education systems by utilizing questionnaire and acceptable criteria as shown bellow

There were 3 forms of questionnaires. Each questionnaire was divided into 2 parts.

First part of all form of the questionnaires were basic information of the respondents and there are 7 questions including sex, age, position, working experience, lasted academic certificate, teaching expertise and the number of students (Checklist).

Second parts of the questionnaire are questions related to indicator of internal quality assurance of the school providing on both general and vocational education systems as shown in the tables (3.4, 3.5, and 3.6).

Table 3.4

Number of questionnaire each indicator group (3rd external assessment of general education).

Indicator Group	Component/standard	No of In	No of Q
Basic indicator	1.1 Learners have good physical and mental health.	2	3
	1.2 Learners are endowed with morality, ethics, and desirable values.	3	7
	1.3 Learners have skills in seeking knowledge themselves and study continuously.	2	2
	1.4 Learners are able to think and link it with empirical practice.	2	2
	1.5 Learners' study achievement.	8	16
	1.6 The efficiency of instruction management emphasis on learners-centered approach.	2	2
	1.7 The efficiency of administration and educational development management.	1	4

Indicator Group	Component/standard	No of In	No of Q
	1.8 Internal quality assurance development by institution and district/provincial office.	1	2
Identity Indicator	2.1 Development result achieves the philosophy, vision, mission and the objectives of institution construction.	1	5
	2.2 Development result achieves focus and strengths reflecting as school identity.	1	5
Promoted Indicator	3.1 Result of special program performance promotes institution's function.	1	5
	3.2 Result of institution promotion enhances standard level, standard stability, and develops to reach the best goals consisting with education reformation concept.	1	5

Notice:

No of In   stands for number of indicator

No of Q   stands for number of questions

Table 3.5

Number of questionnaire each indicator group (3rd external assessment of vocational education).

Indicator Group	Component/standard	No of In	No of Q
Basic indicator	1.1 Graduates are able to be employed to work in the respective expertise with one year.	1	3
	1.2 Students obtain knowledge and skills required for their work.	1	1
	1.3 Students are able to pass the vocational standardized test which is recognized by the professional institution.	1	1
	1.4 Students' vocational achievement and innovative creation are useful for public.	1	2
	1.5 Innovative and creative achievements are useful for the public interest.	1	5
	1.6 Achievement of academic service and profession promote student development skill.	1	5
	1.7 Learners learned for their experience in the field.	1	3
Basic indicator	1.8 Achievement of the performance of the educational committee and administrator.		
	1.8.1 Achievement of committee performance.	1	1
	1.11.1 Achievement of administrator performance.	1	1

Indicator Group	Component/standard	No of In	No of Q
Basic indicator	1.9 Achievement of the utilization of information technology in the education management.	1	1
	1.10 Achievement of teacher and staff professional development.	1	1
	1.10 Achievement of risk management.	1	5
	1.12 Achievement of participative creation in the implementation of quality assurance.	1	1
	1.13 Develop the quality of educational institution for the feedback of internal quality assurance.	1	1
Identity Indicator	2.1 Development result reaches the philosophy, vision, mission, and strength of the institution construction.		
	2.1.1 Development achievement reaches the goal as philosophy, vision, mission, and objective of the educational institution.	1	1
	2.1.2 Development achievement reaches the focus and strength which reflect as institutional identity.	1	1
Promoted Indicator	3.1 Achievement of students' quality development.	1	5
	3.2 Achievement of teachers' quality development.	1	3
	3.3 Development of the quality of educational institution becomes the crucial learning resource.	1	3
	3.4 The creation of educational participation and learning opportunities.	1	4

Notice:

    No of In   stands for number of indicator

    No of Q   stands for number of question

Table 3.6

Number of questionnaire each indicator group (3rd internal quality of general education).

Indicator Group	Component/standard	No of In	No of Q
Standard for Learners	1.1 Learners have good physical and mental health.	1	6
	1.2 Learners are endowed with morality, ethics, and desirable values.	1	4
Standard for Learners	1.3 Learners have skills in seeking knowledge them-selves, love learning and capable of continuous self-development.	1	4
	1.4 Learners capable with systematic thinking, creative thinking, judgment and solving the problem consciously and reasonably.	1	4
	1.5 Learners have knowledge and skills required as specified in the curriculum.	1	4
	1.6 Learners have skills in working, love working and are able to work with others and favor honest job.	1	4
	2.1 Teachers perform the duties effectively and reach the effectiveness.	1	9

Indicator Group	Component/standard	No of In	No of Q
Learning Management	2.2 Administrators perform the duties effectively and reach the effectiveness.	1	6
	2.3 School committee, parent and community perform the duties effectively and reach the effectiveness.	1	3
	2.4 Institutions manage curriculum learning procedure and activity to develop learners' quality all aspects.	1	6
Learning Management	2.5 Institutions manage environment and services which promote learners to develop full potential.	1	3
	2.6 Institutions have internal quality assurance system by the defined ministry' law.	1	6
Quality of Social Learning Construction	3.1 Educational institutions construct, promote, and support educational institutions to be the social learning.	1	2
Institution Identity	4.1 To develop institutions to achieve the goal of desirable vision, mission, and strengths.	1	2
Promoted Indicator	5.1 Manage activities as policy, strength, educational reformation concept to develop and support institutions enhancing higher quality.	1	2

Notice:

No of In stands for number of indicator

No of Q stands for number of question

All the characteristic of the questionnaires were in the rating scale (5 Likert Scale) using acceptable criteria as follow

5 means respondent very satisfied with indicator or acceptable criteria or evaluation criteria.

4 means respondent fairly satisfied with indicator or acceptable criteria or evaluation criteria.

3 means respondent neither satisfied nor dissatisfied with indicator or acceptable criteria or evaluation criteria

2 means respondent fairly dissatisfied with indicator or acceptable criteria or evaluation criteria.

1 means respondent very dissatisfied with indicator or acceptable criteria or evaluation criteria.

The researcher translated the questionnaire from Thai into Khmer and submitted them to three experts who have high language proficiency of both Thai and Khmer to check the validity of the translation. After concluding the translation, the researcher submitted the questionnaire to three Khmer Language Teachers to check for validation and appropriateness of wording. The researcher selected only the indicator and acceptable criteria which was acceptable at higher than 50%. This showed that the desirable indicator or acceptable criteria were concurrent with what the researcher wanted to develop.

Fourth phase: Implementation of the indicators of internal quality assurance in the school providing both general and vocational education systems

All indicators of internal quality assurance obtained from interview focus group discussion were implemented with the groups of samples in the school providing on both general and vocational education systems, Kampong Chheuteal High School. They were used to find out which indicators of internal quality assurance most concurrent and usable with this sort of school context. In this part, the researcher asked the sample groups to show their opinion on each indicator comparing with Stufflebeam Checklist.

Data collection

Population and Sample

This research was an indicator development of internal quality assurance of the school providing both general and vocational education systems. Indicators were developed to be appropriate and reliable for that kind of school in context. The researcher selected basic indicators by interviewing and offering the opinion from the 5 experts and 5 focus group discussions such as teacher groups, parent groups, and student group from the high school providing both general and vocational education systems. Afterward, accepted indicators were applied to develop a questionnaire. Then, the researcher made data collection with all purposive samples.

Population

The population in this research conducted with the schools providing on both general and vocational education systems in Cambodia. The school has been allowed to provide both general and vocational education systems by the MoEYS and Vocational Ministry and Royal Government of Cambodia.

Samples are purposively selected only for the school providing both general and vocational education systems.

Research Instrument

The instruments used in this present study were:

1. Expert interview form was structured-interview form with yes-no questions.

2. Focus group discussion record form was a record by title in the focus group to conclude the concept obtained from the focus group discussion.

3. Stufflebeam Checklist was a list used by experts to select the indicators, standard and acceptable criteria.

4. Questionnaire for samples- director, vice-directors, and teachers, was a rating scale questionnaire obtained from expert interview and focus group discussion.

Data Collection

Data collection was conducted between December 2011 and April 2012, which was the academic year for schools in Cambodia; and was carried out in three phases: expert interview, focus group discussion, and implementation of indicators of internal quality assurance of the school providing both general and vocational education systems.

1. The researcher asked permission from the graduate school of Chulalongkorn University to conduct a research study at the school providing both general and vocational systems, Kampong Chheuteal High School, in Cambodia.

2. The researcher obtained permission letters to contact with the school director to issue a permission to collect data samples.

3. Researcher did the data collection with the samples during late December, 2011 till early April, 2012.

4. Researcher checked and finalized the collected data.

Table 3.7

Outline of data collection

Data collection for this study	
Week 1- 3	• An orientation to introduce and explain the sample groups about the indicator development of internal quality assurance.
Week 4-8	• Indicator checklist and interview were administered with experts.
Week 9-13	• The focus group discussion was administered with parents, teachers, and the students.
Week 14-18	• The questionnaire and Stufflebeam checklist were employed with teachers and administrators.

Data Analysis

Before the researcher analyzed data obtained from the questionnaires, the researcher analyzed concept obtained from interview experts and focus group discussion to apply to develop questionnaires and identified the concept to analyze questionnaire data.

1. Fundamental statistical analysis of the variables

1.1 Fundamental statistical analysis of questionnaire respondents was employed by using frequency and percentage.

1.2 Data analysis related to indicators of internal quality assurance of the school providing both general and vocational education systems was employed by using mean $(\bar{x})$, standard deviation *(SD)*, skewness *(Sk)*, and kurtosis *(Ku)* of the variables such as teachers, director. The interpretation of the result identified by mean:

4.50-5.00 means that indicators were most appropriate with standards and that kind of school in context.

3.50-4.49 means that indicators were very appropriate with standards and that kind of school in context.

2.50-3.49 means that indicators were appropriate with standards and that kind of school in context.

1.50-2.49 means that indicators were not appropriate with standards and that kind of school in context.

1.00-1.49 means that indicators were most un-appropriate with standards and that kind of school in context.

Research question 1 was concerned with indicator development of the quality assurance designed by ONESQA and OBEC to be appropriately used in the school providing both general and vocational education systems. To respond to this question the original form of ONESQA and OBEC's standards and indicators were available for the target groups to examine the possibility and propriety of those indicators whether they could be utilized in the context of the school providing on both general and vocational education systems.

Research question 2 dealt with the concerns and challenges in implementing of internal quality assurance indicators designed by ONESQA and OBEC in the context of the school providing both general and vocational education systems. To response to this question, expert interviews, focus group discussions, internal institution quality evaluation result, and Stufflebeam Checklist result on each indicator were employed to collect data. The process of doing interview, focus group discussion, internal evaluation, and Stufflebeam Checklist would present the concerns

and challenges of implementing indicators of the internal quality assurance for Kampong Chheuteal High School.

Research question 3 was concerned with possible proposed indicator model of internal quality assurance of the school providing both general and vocational education systems. For this question, researcher proposed possible model indicator of internal quality assurance as the guideline for Kampong Chheuteal High School.

CHAPTER IV

ANALYSIS RESULTS

This chapter reported the data collected from the experts' interview, focus group discussions, application of Stufflebeam Checklist, and the implementation of indicators of internal quality assurance of the school providing both general and vocational education systems. This chapter also laid out the possible indicator model of internal quality assurance of the school providing both general and vocational education systems by using experts' opinion from empirical data. Both quantitative and qualitative findings of the study were divided into 3 parts as follow:

1. The first part dealt with the first question, which was to examine the appropriate indicators of internal quality assurance designed by ONESQA and OBEC for the school providing both general and vocational education systems.

2. The second part dealt with the second question, which was to investigate the concerns and challenges in implementing indicators of internal quality assurance designed by ONESQA and OBEC for the school providing both general and vocational education systems. This part would present the result of indicator development of internal quality assurance from expert interviews and focus group discussions.

3. The third part dealt with the third question, which was to propose possible indicator model of internal quality assurance of the school providing both general and vocational education systems.

4.1 Examination on Indicator of Internal Quality Assurance

Research Question 1- To what extent, can indicators of internal quality assurance designed by ONESQA and OBEC be appropriately implemented for the school focusing both general and vocational education systems?

This research question determined whether indicators of internal quality assurance could be appropriately implement in the school providing both general and vocational education systems. To address to this research question, the interview and focus group discussion were employed with the academic experts and sample groups as bellow:

After interviewing 5 experts, some indicators and acceptable criteria of internal and external quality assurance indicators designed by ONESQA and OBEC had been changed and adjusted to be the indicators of internal quality assurance of the school providing both general and vocational education systems as the following:

4.1.1 Interview Result

Basic Indicator Group for General Education

Indicator1: learners who have good physical and mental health. It was divided into two sub-indicators.

1.1 Learners who have weight, height, physical competency and know how to take care themselves.

It was an indicator that covered with all learners' competency and responsibility (Expert 1: Jan, 16, 12). It was shown that learners were confident for attaining their class through-out school year (Expert 2: Jan, 25, 12).

1.2: Learners have aesthetics.

This indicator was also good for evaluating learners, but we wanted to know the process that learners attained those of aesthetics. Thus, we should adjust this indicator to be learners have experience from participating in art, music, educational physic, and entertainment (Expert 1: Jan, 17, 12).

It was accepted because learner got more benefit if they were trying to join the activities not only held by school but also by community (Expert 5: Feb, 10, 12).

Indicator 2: Learners are endowed with morality, ethics, and desirable value. This indicator divided into three sub-indicators.

2.1: Learners are good children for parents.

2.2: Learners are good learners for school.

2.3: Learners fulfill some benefit to society.

The first two sub-indicators were very useful for learners. They present learners' responsibility toward their parents and schools (Expert 1: Jan, 16, 12; Expert 5: Feb, 10, 12).

The third sub-indicator was accepted too. But we wanted to adjust this indicator to be learners who have social awareness, value and participate in conserving and developing environment (Expert 1: Jan, 16, 12; Expert 3: Feb, 15, 12).

It was a good indicator that could follow up learners' behavior toward society. They also took responsibility as a good member of society (Expert 2: Jan, 27, 12).

Indicator 3: Learners have skills in seeking knowledge themselves and study continuously.

3.1: Learners obtain knowledge from reading and using technology.

3.2: Learners learn through experience with others.

The first indicator was a very good one because it identified learners that how they were inquisitive and love reading to develop themselves, but we should change the indicator to be learners who like reading and searching for knowledge from many sources. This is because using technology only was not enough. On the other hand, computers and internet service are still limited (All experts).

The second indicator was good for learners to have guides to help them to earn experience, but we should enhance them to use technology.

Learners could learn how to use technology from those experts (Expert 2: Jan, 25, 12; Expert 3: Feb, 15, 12).

Indicator 4: Learners are able to think and link it to empirical practice.

4.1: Learners are able to think.

4.2: Learners are able to adjust themselves to society.

First indicator, learners were enhanced to think creatively not to remember (Expert 4: Jan, 20, 12).When learners had enough knowledge, we thought that they would use that kind of knowledge to set the goal and expectation for the future work (Expert 2: Jan, 25, 12).

Second indicator was good because learners were able to solve the problem appropriately (Expert 4: Jan, 20, 12).

Indicator 5: Learners' study achievement.

Learners needed to pass 8 main subjects with good grade. This school only needed learners to pass national test at the end of academic year. So, we should set indicator to be percentage of learners pass national test (All experts).

Indicator 6: The efficiency of instruction management emphasis on learner-centered approach.

6.1: Teacher recommends and advices learners on their work.

6.2: The process of teachers' instruction management.

First indicator was very good for teachers and education staff to improve their knowledge and experience in doing their professional job. When teachers were qualified, they were confident to guide learners with their teaching job or their work (Expert 1: Jan, 16, 12).

It was very good indicator because teachers or educational staff should improve their knowledge in accordance with global developments of all media or information or information technology (Expert 2: Jan, 25, 12; Expert 5: Feb, 10, 12).

Second indicator, all teachers should be well-prepared before they teach learners (Expert 3: Feb, 15, 12). Of course, not all teachers prepared well before teaching. Thus, we should adjust this indicator to be percentage of teacher measure and evaluate learner development by applying various method (Expert 5: Feb, 10, 12; Expert 2: Jan, 25, 12).

Indicator 7: The efficiency of instruction and institution management.

7.1: The efficiency of administrative management that follows the duty of school director.

7.2: The efficiency of school committee of general education that is concurrent with their position.

7.3: Climate and environment

7.4: Instructional management and development are sustainable and continuous.

First indicator, administration was the root of a unit; it could help to process the unit easily if it had strong administrational management (Expert 1: Jan, 16, 12; Expert 2: Jan, 25, 12). School director was a boss of an organization. He/she was able to manage all institution performance and institution resources such as academy, budget, staff and general management (Expert 3: Feb, 15, 12; Expert 5: Feb, 10, 12).

Second indicator, school committee played role as similar as school director. It helped school in all perspectives (Expert 3: Feb, 15, 12). It could help school to communicate with learners' parents and community (Expert 2: Jan, 25, 12).

Third indicator, it was good when school persisted good climate and environment because it could attract learners to have good study emotion (Expert 3: Feb, 15, 12; Expert 5: Feb, 10, 12). But we should adjust this indicator to be school climate and environment is satisfied by learners and audiences. It meant that school was a safe, healthy and comfortable for learners to study (Expert 1: Jan, 16 12).

It builds audience confidence. Thus, the audience will enhance their children to come to study in this kind of school more and more (Expert 4: Jan, 20, 12).

To assure that school consisted good quality, school needed to manage and develop it-self to reach quality standard (Expert 1: Jan, 16, 12; Expert 5: Feb, 10, 12).

Indicator 8: Development of internal quality assurance by institution and educational district office.

8.1: Educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.

8.2: Educational staffs who apply evaluation result for educational quality development planning annually.

First indicator, quality of institution should be strengthens by all educational staff. It was not someone responsibility but it was all related agencies' responsibility (Expert 1: Jan, 16, 12).

We accepted this indicator because if we performed a work without control or follow it up. We would not know how our tasks should proceed or we would not know which direction our work was going (Expert 3: Feb, 15, 12). Internal quality was a process of identifying responsibility for educational staff. Internal evaluators and audiences were satisfied with the result (Expert 5: Feb, 10, 12).

Second indicator, when educational staff could follows up, evaluate internal quality. They should use evaluation result to plan for next task (Expert 3: Feb, 15, 12).

Identity Indicator Group for General Education

Indicator 9: Development result that achieves philosophy, vision, mission, and objectives of institution construction.

9.1: Development result that achieves the goal as philosophy, vision, mission, and objectives of institution construction.

9.2: School director, teachers, educational staff, community and external organization who participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.

First indicator identified that development result need to reach philosophy, vision, and mission of the institution (Expert 2: Jan, 25, 12).

Second indicator, all stakeholders should cooperate with each other to help school to achieve vision of school construction. They should participate in setting or planning school's performance (Expert 1: Jan, 16, 12).

Indicator 10: Development result that achieves the focus and strength which reflect as institutional identity.

10.1: Development result that reach focus and strength which reflect as institutional identity.

10.2: School director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.

First indicator, actually, development achievement should reach its focus and strength of institutional identity (Expert 4: Jan, 20, 12).

Second indicator, all internal and external stakeholders of the institution should cooperate in school's task such as setting focus, strength, identity, and performance plan. Because stakeholder knew the school, community and market needs well (Expert 1: Jan, 16, 12; Expert 4: Jan, 20, 12).

Promoted Indicator Group for General Education

Indicator 11: Performance result of special project promotes school's position.

11.1: Learners and stakeholders who participate in special projects.

11.2: The institution that processes special project every year.

First indicator, school enhanced learners, stakeholder to participate in school projects and activities. It meant that school was the center for spreading knowledge to the nearby community or society (Expert 1: Jan, 16, 12; Expert 5: Feb, 10, 12).

Second indicator, special projects should be employed every year to help learners to achieve their goal (Expert 2: Jan, 25, 12).

Indicator 12: Result of institution promotion.

12.1: There is yearly performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.

12.2: Institution processes all kinds of work by using quality assurance cycle (PDCA).

First indicator, this indicator was mostly missed by plan or project makers. They rarely used the evaluation result to plan for new work, plan or project (Expert 1: Jan, 16, 12).

Second indicator, actually, working process was a system work. So, it should step to process one to another (Expert 3: Feb, 15, 12).

Basic Indicator for Vocational Education

Indicator 1: Graduates are able to be employed to work in the respective expertise with one year.

Graduates have been employed to work after they finish their academic year. But not all of graduates have been employed. So, we should adjust this indicator to be percentage of graduate is employed within one year (Expert 1: Feb, 6, 12).

Indicator 2: Students obtain knowledge and skills required for their work.

When learners completed class they would have knowledge and skills required. Skill required meant school educates educational staff to be expertized in their responsibility. We adjusted indicator to be number of qualified subjects that are concurrent with labor market (Expert 1: Feb, 6, 12; Expert 4: Feb, 24, 12).

Indicator 3: Students are able to pass the vocational standardized test which is recognized by professional institution.

This indicator was good. But some learners could not pass their final exam at the end of academic year so we should divide this indicator to two more indicators. They were percentage of learners who complete class follow institutional standard and percentage of learners who pass national examination (Expert 2: Feb, 27, 12; Expert 5: Mar, 1, 12).

Indicator 4: Students' vocational achievement and innovative creation are useful for public.

Indicator 5: Innovative and creative achievements are useful for the public interest.

Indicator 6: Achievement of academic service and profession promote student development skill.

These three indicators were high-class outcomes that were very difficult for learners to process and achieve them. So, we should cut out these three indicators and add 6 indicators instead. We added more indicators such as percentage of learner who has morality, ethics, good occupational value, appropriate physic and good human relationship; number of time and kind of activity that promote academy, morality, ethics and good occupational value; number of time and kind of activity promoting environment conservation, custom and tradition (Expert 3: Feb, 29, 12; Expert 4: Feb, 24, 12; Expert 5: Mar, 1, 12).

Indicator 7: Learners learned from their experience in the field.

Actually, theory learning was not enough for learners, thus, they should have field practice to gain more empirical knowledge. To educate learners to be good people, school should have enough time to promote environment conservation, custom and tradition. Then, we should adjust this indicator to be percentage of learner is capable to apply knowledge and skill in solving problem systematically (Expert 1: Feb, 6, 12).

Indicator 8: Achievement of the performance of the educational committee and administrator. We should cut-out this indicator (Expert 4: Feb, 24, 12).

Indicator 9: Achievement of utilization of information technology in educational management. We should cut-out this indicator because technology was a new idea for rural area learners and teachers. Whereas, we did not have enough computers for learners and we did not have enough internet service. We should talk about infrastructure management of the school (Expert 2: Jan, 27, 12).

Indicator 10: Achievement of teacher and staff professional development.

We adjusted this indicator to be percentage of teachers and educational staff who have been developed following their responsibility (Expert 2: Jan, 27, 12).

Indicator 11: Achievement of risk management.

This indicator was very good. It was used to assure that school was safe, no error on any kind of working process. We should cut-out the word "Achievement" (Expert 1: Feb, 6, 12; Expert 3: Feb, 29, 12).

Indicator 12: Achievement of participation creation in the implementation of quality assurance.

To ask for participation from other units, communities was not easy. But it was very necessary. Therefore, school should find cooperation from other units, networks, and stakeholders. We should adjust this indicator to be number of other units or organizations which cooperate with this institution (Expert 3: Feb, 29, 12; Expert 5: Mar, 1, 12).

Indicator 13: Develop or improve the quality of educational institution from the feedback of internal quality assurance. We accepted with this indicator. But We should adjust it to be development result is concurrent with philosophy, vision, mission and objectives of institution construction (Expert 1: Feb, 6, 12).

Identity Indicator Group for Vocational Education

Indicator 14: Development result that achieves philosophy, vision, mission, focus and strength of the institution.

School director, teachers and stakeholders cooperate in helping school. Thus, the achievement should reach philosophy, vision, mission, focus, strength and objectives of school construction. We should adjust indicator to be 2 indicators. They were development result concurrent with philosophy, vision, mission, and objectives of the institution construction, another one follow focus, strength that reflects as institutional identity (Expert 2: Jan, 27, 12; Expert 4: Feb, 24, 12). Moreover, some experts wanted to add one more indicator, percentage of teacher processes his/her work following professional ethic, to this indicator group because they think that this indicator seemed to appreciate teacher who loves teaching profession (Expert 1: Feb, 6, 12; Expert 4: Feb, 24, 12; Expert 2: Jan, 27, 12).

Promoted Indicator Group

Indicator 15: Achievement of students' quality development.

We should adjust this indicator to be result of learners' quality development (Expert 3: Feb, 15, 12; Expert 4: Feb, 24, 12).

Indicator 16: Achievement of teachers 'quality development.

Teachers' achievement should be improved or developed through-out each academic year. We adjusted it to be result of teachers' quality development (Expert 3: Feb, 15, 12; Expert 4: Feb, 24, 12).

Indicator 17: Development result of the quality of educational institution as the crucial learning resource.

School should be the learning resource for learners and other audiences. We should adjust this indicator to be institution development to be learning-resource (Expert 1: Feb, 6, 12).

School and community always need each other, so school should be the community learning-resource and community should be the field study for school (Expert 2: Jan, 27, 12; Expert 5: Mar, 1, 12).

Indicator 18: The creation of educational participation and learning opportunity.

School gives equal right for all kind of learners to attain class every academic year (Expert 3: Feb, 29, 12).

After interviewing with 5 experts, researcher found that indicator of quality assurance of ONESQA, was changed or adjusted to be indicator of internal quality assurance of the school providing both general and vocational education systems. Some indicators of ONESQA and OBEC were cut out and some indicators were added to each main group of indicator. The researcher found that there were 12 indicators (26 sub-indicators) for general education and 23 indicators for vocational education. All indicators were presented in the following research conceptual framework 2.

Research Conceptual Framework 2
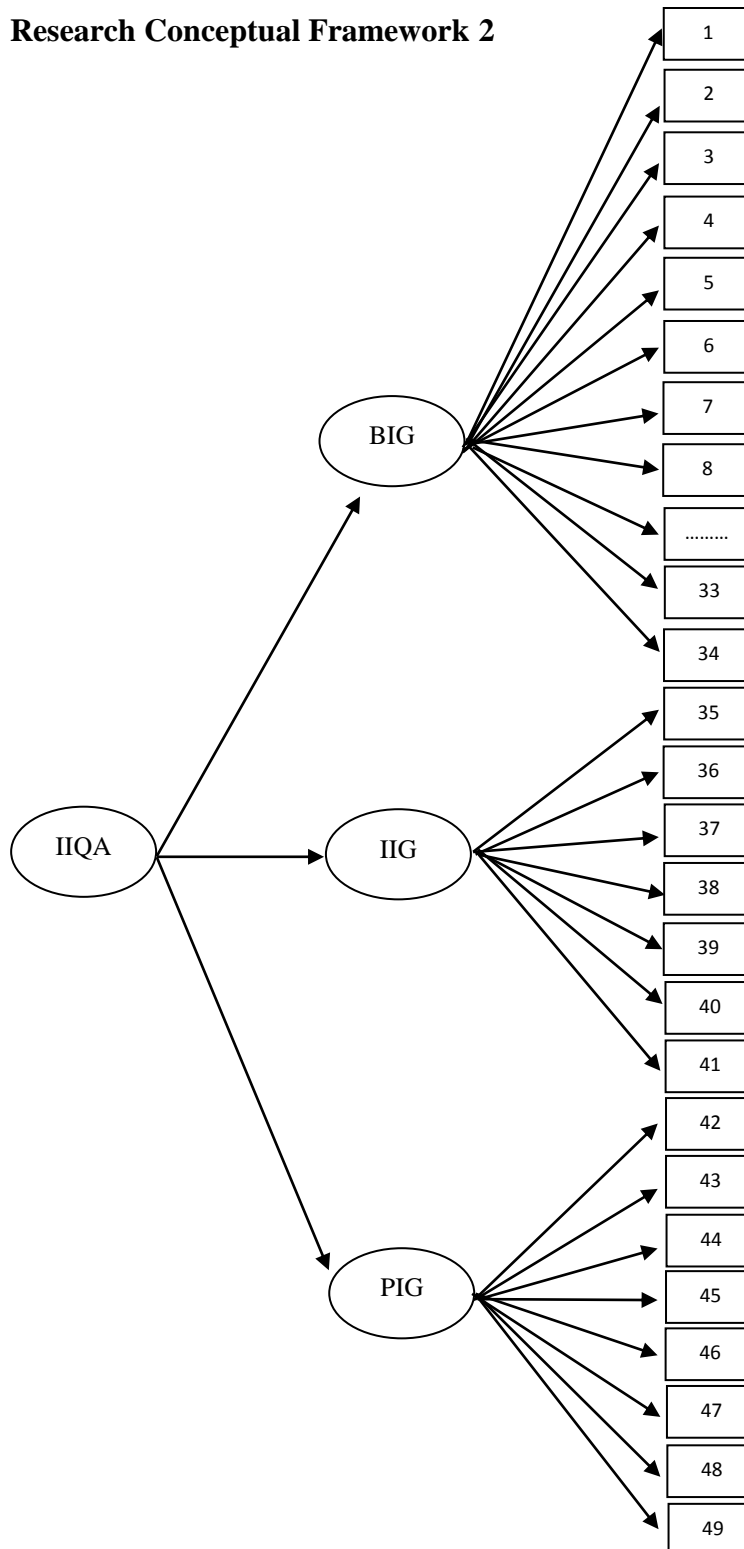
Figure 3: Research conceptual framework 2
Note: IIQA stands for indicator of internal quality assurance.
        BIG stands for basic indicator group.
        IIG stands for identity indicator group.
        PIG stands for promoted indicator group.

4.1.2 Focus Group Discussion Result

Basic Indicator Group for General Education:

Indicator1: learners who have good physical and mental health.

With indicator 1.1: it was accepted with this kind of school context because the meaning covered all the concepts that learners should have those of physical and mental health (Teacher group 1: Mar, 8, 12; parent group: Mar, 12, 12).

With indicator 1.2: We wanted to identify the meaning of art, music, and educational physic to be insightfully understood by teacher who took responsibility on it. Art, music, and educational physic instruction should be covered by learning scope (Parent group: Mar, 12, 12).

Indicator 2: Learners are endowed with morality, ethics, and desirable value.

2.1: Learners are good children for parents.

2.2: Learners are good learners for school.

These indicators were good but they should be adjusted to high frequency of daily attendance in all grade through-out school year and low percentage of drop-out learners. Children only come to class every day, was enough to be good child for parents and school. On the other hand, MoEYS and Government Strategy also announced that no child out school. Therefore, stakeholders should gather those children to school (Parent group: Mar, 12, 12; teacher group 1: Mar, 8, 12).

With indicator 2.3: if learners have good social awareness and value, they can help to develop themselves, other learners, school, community and society. They can also take responsibility as a good member of the society (Parent group: Mar, 12, 12).

Indicator 3: Percentage of graduates is employed or they can establish their own business within one year.

With indicator 3.1: This indicator is acceptable because it could show learner were smart and hard-working (Learner group 1: Mar, 21, 12).

With indicator 3.2: If learners could use technology well they should have more ease with learning and working and they could adjust them-selves to the global movement (Teacher group 1: Mar, 8, 12).

Indicator 4: Learners are able to think and link it to empirical practice.

4.1: Learners are able to think creatively.

4.2: Learners are able to adjust themselves to different society.

We should adjusted these indicators to be learner can set goal, expectation and they can solve the problem by using cause-effective principle; Learners who demonstrate thinking method and problem-solving method by using appropriate language.

Indicator 5: Learners' study achievement.

5.1: It talked about ultimate achievement of learner for their study life in last grade of upper secondary school or last grade of high school (All focus group discussion).

Indicator 6: The efficiency of instruction management emphasis on learners-centered approach.

6.1: This indicator was accepted because this indicator tells about teacher and educational staff who upgrade knowledge (Teacher group 1: Mar, 8, 12).

6.2: This indicator was very good for teacher to measure learners' achievement (Teacher group 1: Mar, 8, 12; learner group 1: Mar, 21, 12).

Indicator 7: The efficiency of instruction and institution development.

All the sub-indicators were accepted except indicator 7.3 as it should be adjusted to be school climate and environment which is satisfied by learners and audiences (Teacher group 1: Mar, 8, 12).

Indicator 8: Development of internal institution quality assurance by institution and educational district office.

8.1: All completed work should be controlled, followed up and compared to the standards. They were required to check whether they reached the goal or not (Teacher group 1: Mar, 8, 12; parent group: Mar, 12, 12).

8.2: Working or planning by using evaluation result was the strong administration unit because working or trying to find better way to cover or process that work (Parent group: Mar, 12, 12).

Identity Indicator Group for General Education

Indicator 9: Development result that achieves philosophy, vision, mission, and objectives of institution construction.

Indicator 9.1 and 9.2 were very good because no organization isolated. They should have a firm cooperation or network that allowed school or organization to process its duties very well (Teacher group 1: Mar, 8, 12).

Indicator 10: Development result that reaches focus and strength which reflect as institutional identity.

10.1: Cooperation could make the working process go well in accord with its plan as set in focus, strength, and objectives of institutional identity (Teacher group 1: Mar, 8, 12; parent group: Mar, 12, 12).

10.2: Actually, learners should have such attitude as set in the focus, strength, and institutional identity (Learner group 1: Mar, 12, 12).

Promoted Indicator Group for General Education

Indicator 11: Performance result of special project promotes school's position.

Indicator 11.1 and 11.2 were accepted because work needs to be processed as usual. It encouraged teacher to get used to performing it and they can process it well in common (Parent group: Mar, 12, 12; Learner group 1: Mar, 21, 12).

Indicator 12: Result of institution promotion.

Indicator 12.1 and 12.2 were accepted because this was the new idea of working. Some teachers usually performed their work with this quality assurance cycle, but C (check) was often missed during working (Teacher group 1: Mar, 8, 12).

Basic Indicator Group for Vocational Education

All focus group members have adjusted some indicators and reordered as following:

Indicator 1: Percentage of learners who complete their class with instructional standard.

The indicator to respond to the percentage of learners who can complete their class with their school's or Ministry of Education Youth and Sport's norm (Teacher group 2: Apr, 1, 12) were established.

Indicator 2: Percentage of learners who pass national examination.

Teachers should monitor the percentage of learner who can pass or false the national examination (Teacher group 2: Apr, 1, 12; parent group: Mar, 12, 12).

Indicator 3: Percentage of graduates who is employed within one year.

A lot of learners have graduated but some learners are still unemployed. So school should assure that learners with employment opportunities. Therefore,

additional phrases to this indicator are inserted to make it more meaningful (Learner group 2: Mar, 30, 12; parent group: Mar, 12, 12).

Indicator 4: Number of qualified subject which are concurrent with the requirement of the labor market.

All learners who registered the course or subject provided by the school are qualified (Teacher group 2: Apr, 1, 12).

Indicator 5: Percentage of learners who have morality, ethics, good occupational value, appropriate physic and good human relationship.

This indicator was totally accepted because it was the based-norm of the school and Ministry of Education Youth and Sport in which the percentage of absentee are low (Parent group: Mar, 12, 12; Teacher group 2: Mar, 1, 12).

Indicator 6: Number of times and kinds of activities that promote academy, morality, ethics, and good occupational skill.

To educate learners to be good people or good employees in the society or labor market, school should have enough time to promote academy and morality to learners. Learners should have good physical and social awareness and occupational value (Teacher group 2: Apr, 1, 12).

Indicator 7: Number of times and kinds of activities that promote environment conservation, custom, and tradition.

Before performing some activities, school's goal and mission should be well-created. Then schools should explain all members to understand and process the plan toward the goal (Teacher group 2: Apr, 1, 12; parent group: Mar, 12, 12).

Indicator 8: Percentage of learners who drop-out school as compared to the early year enrollment.

Some of families in the rural area were very poor. So they tried to stop their children from attending school so that those learners could help them with their family business. The family business was known as one of the reasons that increased percentage of drop-out learner recognition-able (Teacher workshop: Feb, 16-17, 12).

Indicator 9: Number of projects or activities which shared knowledge and experience to learners.

Actually, school and teachers should set up many projects or activities for learners to share knowledge among their friends or among teachers and learners. For example academic club, tutor, and field trip study (Teacher group 2: Apr, 1, 12; learner group 2: Mar, 30, 12).

Indicator10: Number of other units or organizations which cooperate with this institution.

The cooperation between school and other units which enabled school to strengthen its management structure (Teacher group 2: Apr, 1, 12).

Indicator 11: Permanent teacher proportion qualified in occupation for learner each subject skill.

Most of Cambodian classes always have a lot of learners for each teacher (More than 40 learners for one teacher) so the efficiency of instruction was not every good for learning and teaching (Teacher group 2: Apr, 1, 12).

Indicator 12: Percentage of learners-centered utilization in training occupational skill.

Learners-centered approach was a very good way to instruct learners to practice themselves with the empirical work (Teacher group 2: Apr, 1, 12).

Indicator 13: Infrastructure management is appropriate to the norm and suitable to learner.

This indicator was very special because if school had enough and qualified infrastructure it would help school to have good environment for learners to learn (Teacher group 2: Apr, 1, 12; parent group: Mar, 12, 12).

Indicator 14: Percentages of learners are capable to apply knowledge and skill in solving problem systematically.

This indicator was very good for teachers to measure learners' capacity in applying knowledge and skills to solve the problems (Teacher group 2: Apr, 1, 12; learner group 2: Mar, 30, 12).

Indicator 15: Risk management

School should have enough and effective safety system for teacher and learner while they were on their instructional duty (Teacher group 2: Apr, 1, 12).

Indicator 16: Number of educational staff who has been refreshed based on their duties.

 School should develop its audiences to go along with global movement or development (Teacher group 2: Apr, 1, 12).

Identity Indicator Group for Vocational Education

Indicator 17: Development result that reaches philosophy, vision, mission, and objectives of the institution construction.

It was true and fair because all the people had to participate in developing institution (Teacher group 2: Apr, 1, 12).

Indicator 18: Development result that reaches focus and strength that reflects as institutional identity.

Development result should follow what the institution had set in its goal (Teacher group 2: Apr, 1, 12).

Indicator 19: Percentage of teacher who works with professional ethics.

This indicator was very good to foster teacher's instructional emotion (Parent group: Mar, 12, 12). On the other hand, administrator or audience could evaluate teacher (Teacher group 2: Apr, 1, 12).

Promoted Indicator Group

Indicator 20: Result of learners' quality development.

Learners' achievement should be improved or developed gradually (Parent group: Mar, 12, 12).

Indicator 21: Result of teachers' quality development.

Teacher should develop their knowledge to follow the global development (Teacher group2: Apr, 1, 12; parent group: Mar, 12, 12).

Indicator 22: Institution development that is learning-resource.

School and community always need each other, so school should be the community learning-resource and community should be the field practice for school (Teacher group 2: Apr, 1, 12).

Indicator 23: Increase educational participation and reachable study opportunities.

Institution gives stakeholder in all races and religious inclination the opportunity in attaining class or special project which school held every academic year (Teacher group 2: Apr, 1, 12; parent group: Mar, 12, 12). Thus, this indicator has been adjusted to be learners and stakeholders having opportunity to attain class or special project.

Table 4.1

Comparison of Indicator of ONESQA and Indicator of this research (general education)

Indicator of ONESQA	Indicator of this Research	Reason
Basic Indicator Group		
1.1 Learners who have weight, height, physical competency and know how to take care themselves. 1.2: Learners have aesthetics.	1.1 Learners who have weight, height, physical competency and know how to take care themselves. 1.2 Learners have experience from participating in art, music, educational physic and entertainment.	Indicator 1.2 was adjusted but the meaning is still the same to the old one. Researcher and experts only wanted to expand this indicator to be easy-understand one.
2.1: Learners are good children for parents. 2.2: Learners are good learners for school. 2.3: Learners fulfill some benefit to society.	2.1: Daily attendance is high in all classes through-out school year. 2.2: Percentage of drop-out learner is low.	Indicator 2.1 and 2.2 were adjusted. To be good child for parents and school, learners should attain class very day and do not drop-out.
	2.3: Learners who have social awareness, value and they participate in	Because it was the base norm of school, MoEYS of Cambodia and strategy

Indicator of ONESQA	Indicator of this Research	Reason
3.1: Learners obtain knowledge from reading and using technology. 3.2: Learners learn through experience with others.	conserving and developing environment. 3.1: Learners who like reading and searching knowledge from many sources. 3.2: Learners who can use technology in learning and demonstrating achievement.	of government that impelled every learner to attain class. Indicator 2.3 was adjusted but the meaning is constant. Indicator 3.1 of ONESQA was adjusted but the meaning is almost constant. It is easier to collect data (no extra burden for teacher). Indicator 3.2 was adjusted because learners have been enhanced to be able to study and work with technology.
4.1: Learners are able to think creatively.	4.1: Learners who can set goal, have expectation and can solve the problem by using cause-effective principle.	Indicator 4.1 and 4.2 of ONESQA were combined and adjusted but meaning is still concurrent to the old ones. And we added more peaceful model .

Indicator of ONESQA	Indicator of this Research	Reason
4.2: Learners are able to adjust themselves to society.	4.2: Learners who demonstrate thinking method and problem-solving method by using appropriate language.	Indicator 4.2 was added because learner should share this model to other when they were suggested to share it.
5.1: Percentage of learners pass national test.	5.1: Percentage of learners pass national test.	This indicator keeps its original form.
6.1: Teacher recommends and advices learners on their work. 6.2: The process of teachers' instruction management.	6.1: Teacher recommends and advices learners on their work. 6.2: Percentage of teachers who measure and evaluate learners' development by applying various methods.	Indicator 6.2 was adjusted Because we wanted to separate teacher who manage their instruction by applying multi-method with teacher who still use old style of teaching.
7.1: The efficiency of administrative management that follows the duty of school director. 7.2: The efficiency of school committee of general education is	7.1: The efficiency of administrative management that follows the duty of school director. 7.2: The efficiency of school committee of general education is	These first 2 indicators keep their original forms. Indicator 7.3 was adjusted because school climate and environment were judged by learners and stakeholders.

Indicator of ONESQA	Indicator of this Research	Reason
concurrent with their position. 7.3: Climate and environment 7.4: Instructional management and development those are sustainable.	concurrent with their position. 7.3: School climate and environment that are satisfied by learners and audiences. 7.4: Instructional management and development those are sustainable.	If they are satisfies with school climate and environment means that school has good climate and environment structure that can assure with health, safety, beauty norm. the fourth indicator keeps original form.
8.1: Educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution. 8.2: Educational staff applies evaluation result to plan for educational quality development.	8.1: Educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution. 8.2: Educational staffs who apply evaluation result for educational quality development planning annually.	These 2 indicators of ONESQA and indicator of this research are stable. Stakeholders must help school to process its work. Educational staff needs to use evaluation result to plan for new work or task.

Indicator of ONESQA	Indicator of this Research	Reason
Identity Indicator Group		
9.1: Development result achieves the goal as philosophy, vision, mission, and objectives of institutional construction. 9.2: School director, teachers, educational staff, community and external organization who participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.	9.1: Development result achieves the goal as philosophy, vision, mission, and objectives of institution construction. 9.2: School director, teachers, educational staff, community and external organization who participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.	This first indicator was the same to each other. Indicator indicated that development result needs to reach in school needs. This second indicator saves its original form.
10.1: Development result that reach focus and strength which reflect as institutional identity. 10.2: School director, teacher, educational staff, community and external organization participate in	10.1: Development result that reach focus and strength which reflect as institutional identity. 10.2: School director, teacher, educational staff, community and external organization participate in	This firs indicator saves its original form. The second indicator is stable.

Indicator of ONESQA	Indicator of this Research	Reason
setting focus, strength identity of the institution.	setting focus, strength identity of the institution	
Promoted Indicator Group		
11.1: Learners and stakeholders participate in special projects.	11.1: Learners and stakeholders participate in special projects.	School always gives the opportunity for leaner or stakeholder to participate in instruction and special project.
11.2: The institution that processes special project every year.	11.2: The institution that processes special project every year.	School wants to connect school to community.
12.1: There is yearly performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result. 12.2: Institution processes all kinds of work by using quality assurance cycle (PDCA).	12.1: There is yearly performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result. 12.2: Institution processes all kind of work by using quality assurance cycle.	This indicator saves its original form.

Table 4.2

Comparison between Indicator of ONESQA and Indicator of this research (vocational education)

Indicator of ONESQA	Indicator of this Research	Adjusted Indicator
Basic Indicator Group		
1. Graduates are able to be employed to work in the respective expertise with one year. 2. Students obtain knowledge and skills required for their work.	1. Percentage of learners who complete their class with institutional standard. 2. Percentages of learner who pass the national examination. 3. Percentage of drop-out learner as compared to the early year enrollment.	This indicator group was reordered as illustrated in second column. Indicator 3 of ONESQA was adjusted to 2 indicators (indicator 1 and 2) in this research study. Because some learners have no chance to take national test. They could finish only course work.
3. Students are able to pass vocational standardized test which is recognized by professional institution. 4. Students' vocational achievement and innovative creation are	4. Percentage of graduate who is employed or can establish their own business within one year. 5. Number of qualified subjects which are concurrent with the labor market requirement.	Some learners could take national test but they couldn't pass it. This two indicators enabled researcher to set another indicator that talk about drop-out learner during school year and it was concurrent with MoEYS and

Indicator of ONESQA	Indicator of this Research	Adjusted Indicator
useful for public.	6. Percentage of learner has morality, ethics, good occupational value, appropriate physic and good human relationship.	government strategy that impel all institutions to reduce drop-out learner rate during academic year. They also compel institution and stakeholder to gather children to go to school (workshop, 13-15, Jun, 11).
5. Innovative and creative achievements are useful for the public interest. 6. Achievement of academic service and profession promote student development skill. 7. Learners learned from their experience in the field. 8. Achievement of the performance of the	7. Number of times and kinds of activities that promote academy, morality, ethics and good occupational value. 8. Number of times and kinds of activities that promote environmental conservation, custom, and tradition. 9. Number of projects or activities that share knowledge and experience to learner.	Indicator 1 of ONESQA was ordered to be indicator 4. Indicator 2 of ONESQA was adjusted to be indicator 5. Because, if the subject is qualified learner will obtain knowledge and skill required. So, they would be employed. Indicator 4, 5 and 6 of ONESQA were cut out. Because, these achievements seem difficult for this school to create innovative products. Indicator 6 was added.

Indicator of ONESQA	Indicator of this Research	Adjusted Indicator
educational committee and administrator.	10. Number of other units or organizations which cooperate with the institution.	Because, thought, learner study in vocational education they need to have such those condition for happy life.
9. Result of information technology application in educational management. 10. Achievement of teacher and staff professional development. 11. Achievement of risk management. 12. Achievement of participation creation in the implementation of quality assurance.	11. Permanent teacher proportion that qualified in occupation for learners each discipline. 12. Percentage of learners-centered utilization in training occupational skill. 13. Infrastructure management that is appropriate to the norm and suitable to learners. 14. Percentage of learner which is capable of applying knowledge and skills in solving problem systematically.	Indicator 7, 8, 9 and 10 were added. Because, these activities and projects help school to achieve the goal of the institution construction (6 times of Kampong Chheu-teal school workshop, 2012). Indicator 11 was added to check qualified permanent teacher in each discipline. Indicator 8 of ONESQA was adjusted to indicator 12. Because, MoEYS promotes learner-centered approach to all instruction process. (Workshop at Kratie, 13-15, Jun, 12).

Indicator of ONESQA	Indicator of this Research	Adjusted Indicator
13. Quality development of educational institution from feedback of internal quality assurance.	15. Risk management 16. Number of educational staff that has been refreshed based on their duties.	Indicator 9 of ONESQA was adjusted to be indicator 13. Because, technology use on management process was still limited in school but MoEYS impels school to have good infrastructure management.
		Indicator 7 of ONESQA was adjusted to be indicator 14. Because, this indicator tells about learner's knowledge and skill application. Indicator 11 was ordered to be indicator 15. Indicator 10 of ONESQA was adjusted to be indicator 16 that eases to understand.
Identity Indicator Group		
14. Development result is concurrent with philosophy, vision,	17. Development result that reaches philosophy, vision, mission, and	Indicator 14 of ONESQA was separated into 2 indicators.

Indicator of ONESQA	Indicator of this Research	Adjusted Indicator
mission, focus and strength of the institution.	objective of institution construction. 18. Development result that reaches focus, strength that reflects as institutional identity. 19. Percentage of teacher who works with professional ethics.	It is easy for performer to employ these indicators in their daily working process. On the other hand, Indicator 19 was added to this indicator group by experts. This indicator used to foster teacher's instruction emotion.
Promoted Indicator Group		
15. Achievement of students 'quality development. 16. Achievement of teachers' quality development. 17. Development of quality of educational institution as crucial learning resource. 18. The creation of	20. Result of learners' quality development. 21. Result of teachers' quality development. 22. Institution development that is learning-resource. 23. Increase educational participation and reachable study opportunity.	Indicator 15, 16 of ONESQA were ordered to be indicator 20 and 21. Indicator 17 of ONESQA was adjusted to be indicator 22. But the meaning of indicator stills the same. Indicator 18 of ONESQA was adjusted to be indicator 23. The meaning of the indicator is approximately

Indicator of ONESQA	Indicator of this Research	Adjusted Indicator
educational participation and learning opportunity.		the same as the old one. But, It increases more opportunity to not only learners but also stakeholder nearby school.

Based on the focus group discussion, researcher found that indicator of quality assurance of ONESQA and OBEC, were changed or adjusted to be indicator of internal quality assurance of the school providing both general and vocational education systems. Researcher found that there were 12 indicators (26 sub-indicator) for general education and 23 indicators for vocational education. All indicators were illustrated in research conceptual framework 3. Thus, the total indicators of internal quality assurance were 49. But, some indicators in general and vocational education consisted of convergent indicators. Researcher analyzed and synthesized those indicators together as shown in the research conceptual framework 3. Researcher found that total indicators of internal quality assurance for the school providing both general and vocational education systems were 41.

Research Conceptual Framework 3
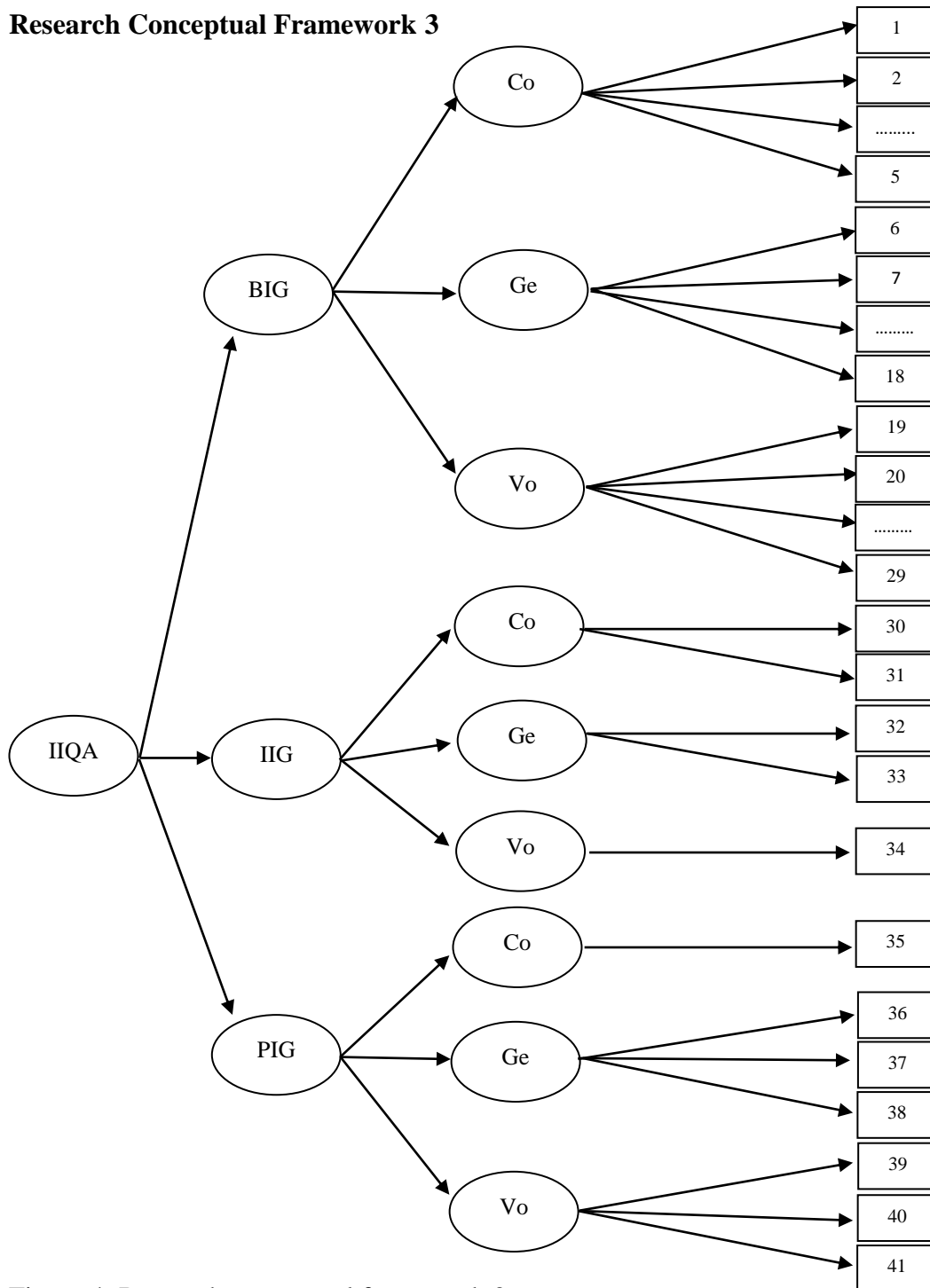
Figure 4: Research conceptual framework 3
Note: IIQA stands for indicator of internal quality assurance.
        BIG stands for basic indicator group.
        IIG stands for identity indicator group.
        PIG stands for promoted indicator group.
        Ge stands for General Education.
        Vo stands for Vocational Education.
        Co stands for convergent indicator of Ge and Vo.

4.2 Concerns and Challenges in Implementing Indicators

Research Question 2- What are concerns and challenges in implementing indicator of internal quality assurance designed by ONESQA and OBEC?

The second research question investigated the concerns and challenges in implementing indicators of internal quality assurance. To address to this research question, some questions were constructed in order to interview the experts and teachers. Internal school quality evaluation, Stufflebeam Checklist, and questionnaire were responded by teachers on each indicator was conducted to investigate the concerns and challenges in implementing indicators of internal quality assurance.

4.2.1 Interview

During the interview, the experts and teachers were asked to express their overall opinions toward the indicators of internal quality assurance of the school providing both general and vocational education systems, such as the meaning of indicators, ease and difficulty of using indicators to measure learners' performance, how to collect data from that kind of indicators, as well as their comments and suggestion on the implementation of indicators of internal quality assurance of the school providing both general and vocational education systems.

The following contents were the concerns and challenges of implementing indicator of internal quality assurance.

Actually, teacher and educational staff usually performed their instruction then they utilized traditional model to teach and evaluate their learners. Most of those teachers and educational staffs rarely performed their tasks by utilizing quality assurance cycle systems (PDCA). This meant that teachers and educational staff work on their duties but they rarely utilized evaluation results to update their instructional

plan to create new work. On the other hand, teachers or educational staff performed their work as usual duties, but they never evaluated their self- assessment (teacher 1: 17, Mar, 12).

Most of teachers and educational staff got used to old style of instruction and evaluation. They did not like current instructional and evaluation techniques or methods. This is because those techniques needed more preparation. And teachers or educational staff found that new techniques or methods are difficult to implement them. Thus, it could be said that implementing current instructional techniques or methods were to put more burdens for teachers or educational staff (Teacher 2: 27, Mar, 12).

The teachers and educational staff thought that having the quality assurance was like an extra work for them. In order to do this work, they needed to deduct some working time from their normal instructional work. This could cause their teaching effectiveness decrease (Teacher 2: 27, Mar, 12).

Giving teachers and educational staff a new way of assessing teaching-learning procedure was like to give them more burdens in addition to their existing responsibility. Thus, it needed time for assessors to make teachers and educational staffs understand the meaning and the process of working with the new methods or techniques, indicators of internal quality assurance. This new way of assessment seemed a very interesting way to evaluate instructional process but it was the burden for internal evaluators (teacher 4: 5, Mar, 12; teacher 5: 19, Mar, 12).

Most teachers and educational staff did not insightfully understand the content of indicators of internal quality assurance. They did not know how to use indicators to measure instructional tasks. They did not know how to collect data from those

indicators and did not know how to analyze the collected. Some staffs understood the indicators and how to work on indicators of internal quality assurance but they got no support, particularly financial supports, from school or provincial education office or Ministry of Education Youth and Sport, especially, in term of using budget. Another problem was that teachers did not only get both cooperation and inspiration in performing those of tasks from their colleagues (teacher 3: 4, Apr, 12; teacher 8: 31, Mar, 12).

The major problem of working with indicators of internal quality assurance was an un-continuous work. Teachers and educational staff always gave up this kind of work when no evaluation took place. They thank that doing the quality assurance was the waste of time. It may affect their classroom instructional time if they tried to work on the quality assurance. Another problem was that they did not understand that quality assurance was one part of administration. They never processed it as normal duties. Instead, they did an academic task or document preparation (teacher 6: 26, Mar, 12; teacher 7: 23, Mar, 12).

In conclusion, most of teachers and educational staff did not get familiar with the indicators of internal quality assurance. They did not like to follow up their work. So, they rarely used indicators to follow up, measure and evaluate their work or task. Most of the teachers and educational staff performed their work by using naturalistic approach more often than systematic approach.

4.2.2 Evaluation Result on each Indicator

Researcher did the quality assurance by utilizing newly developed indicators in the school providing both general and vocational education, Kampong Chheuteal High School. All indicators and evaluation result were shown in the table 4.3.

Table 4.3

Evaluation Result of Indicators of Internal Quality Assurance

Indicators	Evaluation Result
Basic Indicator Group	
1. Percentage of learner who complete their class with institutional standard.	Over 90% of learners finished their class every year.
2. Percentage of learners who complete national examination.	86.7% percent of learners passed national test each year.
3. Percentage of drop-out learners as compared to the early year enrollment.	Around 10% of learners drop-out school every class each year.
4. Learners who have social awareness, value, and participate in conserving and developing environment.	School director and teachers intended and tolerated to train, implant morality, ethics and social value to learners as identified in the curriculum. 80% of Learners who have social awareness, value, and participate in conserving and developing environment.
5. Percentage of learner-centered approach utilization in training learners.	70% of teachers who used learners-centered approach to teach learners. Teachers were moderators for learners inside and outside the classroom.

Indicators	Evaluation Result
6. Learners who have weight, height, physical competency and know how to take care themselves.	By observing learners' physic and behavior during research, researcher found that 90 % of learners had good physic. They were happy in their study. They had good human relationship even they were not brave enough to communicate with strangers.
7. Learners who have experiences in art, music, educational physic, and entertainment.	80% of learners who liked to be trained by art teacher every week. They could perform their skills well in public.
8. Learners who like reading and searching knowledge from many sources.	School teaching method shown that each major support group, peer leaning. 80 % of learners who liked reading and searching knowledge from many sources.
9. Learners who can use technology in learning and demonstrating achievement.	By report from library and computer lab, they showed that 70% of learners went to library computer lab very often.
10. Learners, who can set goal, have expectation and can solve the problem by using cause-effective principle.	Teacher who enhanced learners to use system of thinking skill more than description in concluding knowledge. 70% of learners who could set goal,

Indicators	Evaluation Result
	have expectation and could solve the problem by using cause-effective plan.
11. Learners who demonstrate thinking method and problem-solving method by using appropriate language.	With this indicator, 85% of learners who could explain each other in solving problem systematically.
12. Percentage of teachers who measure and evaluate learners' development by applying various methods.	80% of teachers who could use many methods in evaluating learners' achievement.
13. The efficiency of administrative management that follows the duty of school director.	School director had good leadership in leading school. He decentralized power to all teachers that enhanced efficiency of work process. There was 70% of efficiency of administrative management.
14. The efficiency of school committee of general education that is concurrent with their position.	90% of school committee jointed all school's activities.
15. School climate and environment that are satisfied by learners and audiences.	School set school climate and environment follow objectives and goal of instruction by constructing learning places. 95% of learners and audiences were satisfied.

Indicators	Evaluation Result
16. Instructional management and development those are sustainable.	70% of instruction management of school used empirical instruction both inside and outside classrooms. The main purpose was to enhance learners to be able to seek knowledge themselves continuously.
17. Educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.	School did the quality assurance by making plan to develop instruction. 90% of administrator and educational staff were aware with the importance of institutional quality assurance. Therefore, they participated to develop educational quality assurance.
18. Educational staffs who apply evaluation result for educational quality development planning annually.	80% of teachers planed their work or teaching job, they always used evaluation result to do it.
19. Percentage of graduate who is employed or can establish their own business within one year.	By school report, it showed that over 60% of graduates could be employed or they establish their independent job.
20. Number of qualified subjects which are concurrent with the requirement of the labor market.	Now there are 4 qualified subjects available for learners to register every year. But school will try to access some

Indicators	Evaluation Result
	more new subjects for learners.
21. Number of times and kinds of activities that promote academy, morality, ethics and good occupational value.	There were 5 projects held this year such as learners' health care, safety on public road, boy-scout, girl-guide, and say no to drug project.
22. Number of times and kinds of activities that promote environmental conservation, custom and tradition.	There were 5 projects held this year such as sport competition, democratic promotion, boy-scout, art performance, fresh community project.
23. Number of projects or activities that share knowledge and experience to learner.	There were 5 projects held this year such as club study, field trip study, green school discussion, boy-scout, and IT presentation project.
24. Number of other units or organizations which cooperate with the institution.	Now there were 5 kinds of companies cooperate with school to help and teach learners to be skilled graduates.
25. Permanent teacher proportion that qualified in occupation for learners each subject.	Permanent teachers in some subject were over enough but some subjects are under the standard.
26. Infrastructure management is appropriate to the norm and suitable to learners.	90% of infrastructure of the school was very appropriate to the norm and every comfortable for learners to earn their

Indicators	Evaluation Result
	knowledge from each discipline.
27. Percentage of learner which is capable of applying knowledge and skills in solving problem systematically.	85% of learners always used their knowledge and skill to apply in daily life activity. They also could perform those knowledge and skill to public.
28. Risk management	School prepared well with safety system. School often trained learners how to be safe. There was no risk happen during study this year.
29. Number of educational staff that has been refreshed based on their duties.	20% of teachers have been refreshed every year to upgrade their knowledge and skill in teaching learners.
Identity Indicator Group	
30. Development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.	Stakeholder cooperated with school in some activities. 85% of activities performed by school, community and society reach goal as philosophy, mission, and objectives of school construction.
31. Development result that reaches focus and strength which reflect as institutional identity.	85% of development result followed strength and focus that can reflect as school identity.

Indicators	Evaluation Result
32. School director, teachers, educational staff, community and external organization who participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.	School report showed that 85% of stakeholders participated in all school procedures. They could perform their responsible duties effectively.
33. School director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.	85% of stakeholder participated in school process. School processed its work creatively and it also implanted theory study with empirical practice or daily life.
34. Percentage of teacher who works with professional ethics.	80% of teacher who processed his/her works following professional ethics.
Promoted Indicator Group	
35. Learners and stakeholders who have widely opportunities to attain class or special project.	Over 95% of learners and stakeholders who had widely opportunities to attain class or special project.
36. The institution that processes special project every year.	School report showed that learners and stakeholders helped to strengthen school with special projects. Three special projects were adopted this year.

Indicators	Evaluation Result
37. There is an annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.	School analyzed evaluation result. It instructed learners with diversity method. Teachers taught learners by using learners-centered approach. 85% of performance leads to reach high standard instruction.
38. Institution processes all kinds of work by using quality assurance cycle (PDCA).	75% of teacher gave remedial teaching for low level learners to reduce gap between smart learners and non-smart learners.
39. Result of learners' quality development.	90% of learners have been developed every year to reach skill standard.
40. Result of teachers' quality development.	20% of teachers have been developed to reach skill standard.
41. Institution development that is learning-resource.	80% of school development that is always learning-resource for learners and other audiences.

To sum up, the school was almost perfect in terms of campus, environment, and infrastructure. As the school is situated near the communities, learners were more comfortable to come to school. Likewise, school administrators had strong leadership skill. They understood insightfully the objectives of school and decentralized power to every teacher in processing their duties. This process enabled teachers to work effectively and love teaching profession. Together with effective leadership of school

administrator, teachers performed very actively. Teachers resolved to instruct learners by enhancing learner-centered approach in instruction. Teachers gave learners with opportunities to fully participate the classroom activities such as they were invited to demonstrate their idea and report group discussion to the class. Teacher was moderator or facilitator to learners. For some subject areas, teacher taught learners by integrating of those subjects with empirical daily life. From an observation, the researcher found that learners were nice, healthy, and have good relationship. Sometimes, learners were instructed by utilizing classical-teaching techniques, but sometimes learners were allowed to do group or peer-learning so that they could share, demonstrate, and present their opinion/experience toward learning concepts.

In conclusion, the internal evaluation results of this research study were in good quality which consistent with fitness for purpose and fitness of purpose of school construction. Even most indicators were in good quality, but some indicators were vague in meeting good quality required such as application of evaluation result of educational staff to plan for quality development annually were still limited for some teachers.

4.2.3 Indicator Selection by Using Stufflebeam Checklist

This checklist was used to select possible indicators of internal quality assurance of the school providing both general and vocational education systems. Four standards would be used in this indicator selection. They were utility standard (4 sub-utility), feasibility standard (2 sub-feasibility), propriety standard (6 sub-propriety) and accuracy standard (11 sub-accuracy).

Table 4.4 was the result of data analysis of the 4 standards of Stufflebeam checklist.

The judgment about the possibility of the indicators in meeting standard can be made as the criteria: 0-2 poor, 3-4 fair, 5-6 good, 7-8 very good, 9-10 excellent.

Table 4.4

Indicator Selection of Stufflebeam Checklist

In	Content	U	F	P	A
1	Percentage of learners who complete their class with institutional standard.	6.8	6.7	6.8	7
2	Percentage of learners who pass national examination.	6.8	6.8	6.8	7
3	Percentage of drop-out learners as compared to the early year enrollment.	6.7	6.7	6.7	6.9
4	Learners who have social awareness, value, and participate in conserving and developing environment.	6.6	6.6	6.6	6.9
5	Percentage of learner-centered approach utilization in training learners.	6.6	6.6	6.6	6.9
6	Learners who have weight, height, physical competency and know how to take care themselves.	6.7	6.6	6.7	7
7	Learners who have experiences in art, music, educational physic, and entertainment.	6.7	6.7	6.7	7
8	Learners who like reading and searching knowledge from many sources.	6.6	6.6	6.6	6.9
9	Learners who can use technology in learning and demonstrating achievement.	6.6	6.5	6.6	6.8
10	Learners, who can set goal, have expectation and can solve the problem by using cause-effective principle.	6.7	6.6	6.7	7

In	Content	U	F	P	A
11	Learners who demonstrate thinking method and problem-solving method by using appropriate language.	6.7	6.6	6.7	6.9
12	Percentage of teachers who measure and evaluate learners' development by applying various methods.	6.6	6.5	6.6	6.8
13	The efficiency of administrative management that follows the duty of school director.	6.6	6.5	6.6	6.9
14	The efficiency of school committee of general education that is concurrent with their position.	6.6	6.6	7	7
15	School climate and environment that are satisfied by learners and audiences.	6.6	6.5	6.6	6.9
16	Instructional management and development those are sustainable.	6.6	6.6	6.7	6.9
17	Educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.	6.6	6.5	6.6	6.9
18	Educational staffs who apply evaluation result for educational quality development planning annually.	6.7	6.6	6.7	6.9
19	Percentage of graduate who is employed or can establish their own business within one year.	6.6	6.6	6.7	6.9
20	Number of qualified subjects which are concurrent with the requirement of the labor market.	6.7	6.6	6.7	7
21	Number of times and kinds of activities that promote academy, morality, ethics and good occupational value.	6.7	6.6	6.7	6.9

In	Content	U	F	P	A
22	Number of times and kinds of activities that promote environmental conservation, custom and tradition.	6.7	6.6	6.7	6.9
23	Number of projects or activities that share knowledge and experience to learner.	6.6	6.5	6.6	6.9
24	Number of other units or organizations which cooperate with the institution.	6.7	6.7	6.6	6.9
25	Permanent teacher proportion that qualified in occupation for learner each subject.	6.7	6.6	6.7	7
26	Infrastructure management that is appropriate to the norm and suitable to learners.	6.6	6.5	6.6	6.9
27	Percentage of learner which is capable of applying knowledge and skills in solving problem systematically.	6.6	6.5	6.6	6.9
28	Risk management	6.7	6.7	6.7	6.9
29	Number of educational staff that has been refreshed based on their duties.	6.8	6.8	6.8	7
30	Development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.	6.7	6.7	6.7	6.9
31	Development result that reaches focus and strength which reflect as institutional identity.	6.8	6.6	6.7	6.9
32	School director, teachers, educational staff, community and external organization who participate in planning, setting goal and strategy in harmony with philosophy,	6.9	6.8	6.8	7

In	Content	U	F	P	A
	vision, mission of the institution.				
33	School director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.	6.7	6.8	6.7	7
34	Percentage of teacher who works with professional ethics.	6.6	6.6	6.7	6.9
35	Learners and stakeholders who have widely opportunities to attain class or special project.	6.7	6.6	6.7	7
36	The institution that processes special project every year.	6.7	6.7	6.9	7
37	There is an annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.	6.8	6.6	6.7	6.9
38	Institution processes all kinds of work by using quality assurance cycle (PDCA).	6.6	6.6	6.6	6.9
39	Result of learners' quality development.	6.7	6.7	6.7	6.9
40	Result of teachers' quality development.	6.7	6.6	6.6	6.9
41	Institution development that is learning-resource.	6.8	6.8	6.8	7

Notice:

U: stands for utility

F: stands for feasibility

P: stands for propriety

A: standards for accuracy

As shown in Table 4.4, it figured that indicators of internal quality assurance of the school providing both general and vocational education systems were appropriate with the standard and that kind of school context. The summary mean of each indicator was in the good condition of utility, feasibility, propriety, and accuracy standards. The summary mean of each indicator was ranged between 6.5 and 7.0.

4.2.4 Indicator Selections by Using Questionnaires

Fundamental statistics of mean $(\bar{x})$, standard deviation (SD), skewness (Sk), and kurtosis (Ku) of each indicator which obtained by respondent satisfaction.

4.2.4.1 The details of those samples' current status and background information were shown in Table 4.5

Table 4.5

Current status and background information of the respondents

Variables	Frequencies	Percentages
1. Sex		
Male	59	83.1
Female	12	16.9
Total	71	100
2. Age		
20-29	46	64.8
30-39	17	23.9
40-49	4	5.6
50-59	4	5.6
Total	71	100

Variables	Frequencies	Percentages
3. Position		
School director	1	1.4
Vice director	3	4.2
Teacher	67	94.4
Total	71	100
4. Teaching Experience		
1-9 years	51	71.8
10-19 years	16	22.5
20-29 years	4	5.6
Total	71	100
5. Educational Level		
Associate/diploma degree	58	81.7
Bachelor degree	12	16.9
Master degree	1	1.4
Total	71	100

Variables	Frequencies	Percentages
6. Teaching Expertise		
Math	4	5.6
Physic	3	4.2
Chemistry	4	5.6
Biology	4	7.0
Earth Science	4	2.8
Khmer	4	5.6
Morality	4	5.6
Geography	3	5.6
History	2	4.2
Educational physic	2	2.8
English	9	2.8
Electricity	7	12.7
Electronic	10	9.9
Agriculture	8	14.1
Husbandry	3	11.3
Total	71	100
7. Number of learners (one academic year)		
1-99	43	60.6
100-199	23	32.4
200-299	5	7.0
Total	71	100

As shown in Table 4.5, the samples who were asked to respond questionnaire in this study consisted of 71 samples; 83.1 % were male and another 16.9 % were female. Regarding to the age of samples, it indicated that the majority of the samples' age ranged between 20 to 29 years old (64.8%), while the minority of the samples' age fell between 50-59 years old (5.6%). Further observed on the position, most sample were teachers (94.4%) and the rest were administrators (5.6%). More observed on the teaching experience, shown that most of the teachers had experience on their job between 1-9 years (71.8%) afterward teachers had experience between 10-19 years (22.5%) and the rest was between 20-29 years (5.6%). With teachers' certificate, researcher found that most teacher obtained associate/diploma degree certificate (81.7%) afterward bachelor degree certificate (16.9%) and the rest is master degree certificate (1.4%). About teaching subject, researcher found that most teachers were agriculture teachers (14.1%) afterward husbandry teacher (11.3%) and the less ones were earth science, English, and educational physic teachers (2.8%). Number of learners who teachers instructed, it was found that the majority of learners ranged between 1-99 learners (60.6%) afterward ranged between 100-199 learners (32.4%), and the rest ranged between 200-299 learners (7.0%).

4.2.4.2 Data analysis of respondents' satisfaction on indicators of internal quality assurance of the school providing both general and vocational education systems by using mean *(x̄), standard deviation (SD), skewness (Sk), and kurtosis (Ku)* as shown in Table 4.6.

Table 4.6

Mean ($\bar{x}$), standard deviation (SD), skewness (Sk), and kurtosis (Ku) of respondents'

satisfaction on possible indicator of internal quality assurance

Indicator	$\bar{x}$	SD	Sk	Ku
Basic Indicator Group				
1. Percentage of learners who complete their class with institutional standard.	3.917	.500	-1.644	6.694
2. Percentage of learners who pass national examination.	3.778	.637	-.482	.840
3. Percentage of drop-out learners as compared to early year enrollment.	4.000	.586	.000	.187
4. Learners who have social awareness, value, and participate in conserving and developing environment.	3.806	.668	-.366	.563
5. Percentage of learner-centered approach utilization in training learners.	3.972	.696	-1.038	2.442
6. Learners who have weight, height, physical competency and know how to take care themselves.	4.000	.535	.000	.880
7. Learners who have experiences in art, music, educational physic, and entertainment.	3.694	.710	-.491	.425
8. Learners who like reading and searching knowledge from many sources.	3.806	.624	.152	-.415

Indicator	$\bar{x}$	SD	Sk	Ku
9. Learners who can use technology in learning and demonstrating achievement.	3.806	.822	-.270	-.320
10. Learners, who can set goal, have expectation and can solve the problem by using cause-effective principle.	3.806	.710	-.714	1.049
11. Learners who demonstrate thinking method and problem-solving method by using appropriate language.	3.833	.737	-.630	.782
12. Percentage of teachers who measure and evaluate learners' development by applying various methods. Percentage of teachers who measure and evaluate learners' development by applying various methods.	3.694	1.037	-1.451	2.070
13. The efficiency of administrative management that follows the duty of school director.	4.083	.874	-1.255	2.945
14. The efficiency of school committee of general education that is concurrent with their position.	4.194	.710	-.808	1.316
15. School climate and environment that are satisfied by learners and audiences.	3.694	.786	-.880	2.695
16. Instructional management and development those are sustainable.	3.694	.710	.017	-.198

Indicator	$\bar{x}$	SD	Sk	Ku
17. Educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.	3.722	.566	.021	-.396
18. Educational staffs who apply evaluation result for educational quality development planning annually.	3.556	.652	-.544	.114
19. Percentage of graduate who is employed or can establish their own business within one year.	3.667	.632	-.319	.258
20. Number of qualified subjects which are concurrent with the requirement of the labor market.	3.694	.749	-1.149	3.637
21. Number of times and kinds of activities that promote academy, morality, ethics and good occupational value.	3.583	.649	-.659	.281
22. Number of times and kinds of activities that promote environmental conservation, custom and tradition.	3.556	.652	-.544	.114
23. Number of projects or activities that share knowledge and experience to learner.	3.667	.632	-.319	.258
24. Number of other units or organizations which cooperate with the institution.	3.833	.609	-.713	1.703

Indicator	$\bar{x}$	SD	Sk	Ku
25. Permanent teacher proportion that qualified in occupation for learners each subject.	4.028	.654	-.027	-.503
26. Infrastructure management that is appropriate to the norm and suitable to learners.	3.889	.575	-.016	.177
27. Percentage of learner which is capable of applying knowledge and skills in solving problem systematically.	3.571	.948	-.766	1.501
28. Risk management	3.857	.692	-.369	.502
29. Number of educational staff that has been refreshed based on their duties.	3.657	.684	-.610	.532
Identity Indicator Group				
30. Development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.	3.743	.741	-.459	.349
31. Development result that reaches focus and strength which reflect as institutional identity.	3.657	.873	-.656	1.324
32. School director, teachers, educational staff, community and external organization who participate in planning, setting goal and strategy in harmony with philosophy, vision, and mission.	3.914	.818	.164	-1.482
33. School director, teachers, educational staff, community and external organization who	3.686	.758	-.250	-.024

Indicator	$\bar{x}$	SD	Sk	Ku
participate in setting focus, strength, and institutional identity.				
34. Percentage of teacher who processes his/her works following professional ethics.	3.800	.677	-.337	.469
Promoted Indicator Group				
35. Learners and stakeholders who have widely opportunities to attain class or special project.	4.057	.639	-.046	-.377
36. The institution that processes special project every year.	3.943	.684	.071	-.735
37. There is an annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.	3.886	.530	-.142	.697
38. Institution processes all kinds of work by using quality assurance cycle (PDCA).	3.829	.822	-.338	-.224
39. Result of learners' quality development.	3.971	.707	-.490	.700
40. Result of teachers' quality development.	3.886	.631	.086	-.353
41. Institution development that is learning-resource.	3.857	.601	.053	-.142

As shown in Table 4.6, it figured that indicators of internal quality assurance of the school providing both general and vocational education systems were appropriate with the standard and that kind of school context. Their means *($\bar{x}$)* ranged between 3.556-4.194 and their standard deviation *(SD)* ranged between 0.500-1.037. All data were skewed to the left (negative skewness) for all indicators. Mean of each

indicator was high and most of indicators had theirs curve higher than the normal curve (positive kurtosis). It showed that most indicators had less distribution except some indicators such as indicator 8, 9, 16, 17, 25, 32, 33, 35, 36, 38, 40, 41 that have their own curve lower than the normal curve (negative kurtosis). This result showed that most of indicators had more distribution.

As shown in 4.2.1, 4.2.2, 4.2.3 and 4.2.4, researcher concluded that the concerns and challenges in implementing indicator of internal quality assurance of the school providing both general and vocational education systems as illustrated in table 4.7.

Table 4.7

Concerns in implementing indicators of internal quality assurance

	Before	During	After
Concern	-Held a meeting with stakeholder of school -Asked for cooperation from stakeholder -Explained participant to understand the process of working with indicator of internal quality assurance	-Monitored internal evaluator toward the process of working with indicator of quality assurance. They should know that it was a daily job not extra burden on their teaching job. Quality assurance was a part of administration. It was not document preparation.	-Described the extent to which each internal evaluator had attained both short- and long-term instruction. -Told teacher how to report or communicate the indicator of internal quality assurance publicly. -Internal evaluator should write recommendations for audiences.

	Before	During	After
Concerns	-Set quality manual or an equivalent document on the institutional policy for quality and on the way to develops into internal quality assurance system. - The internal quality assurance system, taken as a whole. -Introduced teacher to know how to collect data from each indicator.	-Impelled teacher to work with this indicator of internal quality assurance. - Identified gains and difficulties to internal evaluator to experience in working with indicators of internal quality assurance. -Motivated teachers to work with indicators of internal quality assurance.	-Teachers should be aware with both process and evaluation result and use that result to plan for new work or duties in school level. -Sustainability and continuity of using indicator of internal quality assurance.

The establishment of internal quality assurance policies and mechanisms in this kind of school took place in a political and governmental environment. Therefore, the issue of ownership of internal quality assurance agencies always has been very sensitive one, over which a continuous quality standard struggle is found out in school. It means that educators, as well as internal quality assurance agencies, must look to the actual results, process, and outcomes of an instructional process.

The challenges of implementing indicator of internal quality assurance

Quality assurance

The key challenge is for quality assurance agencies to clarify their assumptions and have appropriate reasons for looking to an institution's capacity to offer good educational instruction.

Quality assurance is defined as both fitness for purpose and fitness of purpose. While fitness for purpose refers to school's mission, that is what school set for it-self; fitness of purpose is related to its capacity to satisfy the school construction goal. Quality assurance should cover teaching effectiveness, assessment of courses and teaching, textbook facilities, capacity development.

There are two challenges that school need to ensure quality in school education provision. The first identifies learners' cognitive development as the major precise objective of education systems. The second emphasizes education's role in promoting values and attitudes of responsible citizenship and nurturing creative and emotional development.

There were many challenges which school faced such as the institution's notion of quality, the quality management goals, objectives and expected outcomes, framework for the quality management, and a framework for monitoring and evaluating the outcomes of the implementation of the strategic plan.

Indicator application

Teachers and educational staff did not have insight understanding about the content of those indicators of internal quality assurance. And they did not know the method of organizing their work with indicator of internal quality assurance. On the other hand, teacher did not have prior experience to learn about indicators of internal quality assurance.

Most teacher found that doing quality assurance have led to compliance behavior and inordinate paperwork burden for them. They did not understand that doing quality assurance was one part of administration.

So to encounter with all these concerns and challenges, MoEYS, provincial education office and school director are the main heads in implementing indicator of internal quality assurance to be the model for teachers or internal evaluators. They should educate teachers or internal evaluators to be aware with indicators of internal quality assurance. They should give teachers or internal evaluators good inspiration in working with the quality assurance. Otherwise, school director should do the internal quality assurance as the normal and daily work, not do it as the document preparation. All proofed document were, which were utilized in following up or evaluating learners' achievement, documents that teacher and internal evaluator did during their normal works. Moreover, school director should perform the internal quality assurance as a part of normal administration. All stakeholders should to cooperate in performing internal quality assurance as plan set.

4.3 Possible Proposed Model Indicator

Research Question 3- What are the possible proposed indicator model of internal quality assurance to be utilized in the school providing both general and vocational education systems?

The third research question explored the rational, objectives, and content of possible model indicator of internal quality assurance to be utilized in the school providing both general and vocational education systems. Additionally, it was guidance for Cambodian teachers to have knowledge and experiences in organizing indicators of internal quality assurance for effective instruction and quality assurance.

4.3.1 Rational

The indicators of internal quality assurance could relate what went on in school real life situation, needs, and challenges, thus, it could develop kind of interest

in school work that impelled learners to come to school. Teachers could use indicators of internal quality assurance to identify instruction, otherwise, it could provide experience in planning, in problem-solving and critical group discussion or thinking, and also impelled power of observation, of asking questions, of searching for information. Indicators of internal quality assurance could share a combination of common instruction, adjustment to challenges and situations, differences in needs, and interests toward good human relationships.

4.3.2 Objectives

This research objective was aimed to propose possible indicator model of internal quality assurance in which consisted of three aspects: Basic Indicator Group, Identity Indicator Group, and Promoted Indicator Group. It was guidance for Cambodian teachers to have knowledge and experience in utilizing indicators of internal quality assurance in their instruction and administration process. Therefore, researcher proposed this possible indicator model of internal quality assurance in Kampong Chheuteal High School.

4.3.3 Content of Possible Model Indicator of Internal Quality Assurance

Possible indicator model of internal quality assurance of the school providing both general and vocational education systems was appropriate with this kind of school consists of 41 indicators. They were divided into 9 groups of indicators. The nine groups of indicators were the result of 2-dimension indicator separation. Those 2 dimensions were illustrated in the table 4.8.

Table 4.8

Two-dimension indicator model of internal quality assurance

K of E C I	Convergent Indicators	General Education Indicators	Vocational Education Indicators
Basic Indicator Group	1. Completed-class learners 2. Successful learners 3. Drop-out learners 4. Social-awareness learners 5. Learner-centered instruction	6. Good physical learners 7. Experienced learners 8. Liked-reading learners 9. Technology-used learners 10. Set-goal, expected and problem-solved learners 11.Thinking, problem-solving demonstrated learners 12. Various-evaluation-method-used teachers 13. Effective administration 14. Efficiency of School committee 15. School environment 16. Sustainability of instructional management & development 17. Controlled, followed-up, and evaluated educational staff of internal quality 18. Quality development planning staff	19. Employed graduates 20. Qualified subjects 21. Academic-moral promoted times and activities 22. Environmental conservation, custom and tradition promoted time and activities 23. Knowledge and experience shared projects and activities 24. Cooperated organizations 25. Permanent qualified teachers 26. Infrastructure management 27. Capable applied-knowledge and skill leaners 28. Risk management 29. Number of teachers refreshment
Identity Indicator Group	30. reached-goal result 31. Reached-focus and strength result	32. Planning, goal and strategy setting participants 33. Focus, strength and institution setting participants	34. Professional ethics teachers
Promoted Indicator Group	35. Learners and stakeholders opportunities offer	36. Special project process 37. Annual performance plan 38. Use of PDCA in institution.	39. Learners' quality development result 40. Teachers' quality development result 41. Institutional development learning-resource

Notice

K of E stands for kind of education

C I stands for characteristic of indicator

As shown in the Table 4.8, the researcher presented detailed indicators of internal quality assurance of the school providing both general and vocational education systems.

Basic Indicator Group

Indicator 1: Percentage of learners who complete their class with institutional standard.

Indicator 2: Percentage of learners who pass national examination.

Indicator 3: Percentage of drop-out learner as compared to the early year enrollment.

Indicator 4: Learners who have social awareness, value, and participate in conserving and developing environment.

Indicator 5: Percentage of learner-centered approach utilization in training learners.

Indicator 6: Learners who have weight, height, physical competency and know how to take care themselves.

Indicator 7: Learners who have experiences in art, music, educational physic, and entertainment.

Indicator 8: Learners who like reading and searching knowledge from many sources.

Indicator 9: Learners who can use technology in learning and demonstrating achievement.

Indicator 10: Learners, who can set goal, have expectation and can solve the problem by using cause-effective principle.

Indicator 11: Learners who demonstrate thinking method and problem-solving method by using appropriate language.

Indicator 12: Percentage of teachers who measure and evaluate learners' development by applying various methods.

Indicator 13: The efficiency of administrative management that follows the duty of school director.

Indicator 14: The efficiency of school committee of general education that is concurrent with their position.

Indicator 15: School climate and environment that are satisfied by learners and audiences.

Indicator 16: Instructional management and development those are sustainable.

Indicator 17: Educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.

Indicator 18: Educational staffs who apply evaluation result for educational quality development planning annually.

Indicator 19: Percentage of graduate who is employed or can establish their own business within one year.

Indicator 20: Number of qualified subjects which are concurrent with labor market requirement.

Indicator 21: Number of times and kinds of activities that promote academy, morality, ethics and good occupational value.

Indicator 22: Number of times and kinds of activities that promote environmental conservation, custom and tradition.

Indicator 23: Number of projects or activities that share knowledge and experience to learner.

Indicator 24: Number of other units or organizations which cooperate with the institution.

Indicator 25: Permanent teacher proportion that qualified in occupation for learners each discipline.

Indicator 26: Infrastructure management that is appropriate to the norm and suitable to learners.

Indicator 27: Percentage of learner which is capable of applying knowledge and skills in solving problem systematically.

Indicator 28: Risk management

Indicator 29: Number of educational staff that has been refreshed based on their duties.

Identity Indicator Group

Indicator 30: Development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.

Indicator 31: Development result that reaches focus and strength which reflect as institutional identity.

Indicator 32: School director, teachers, educational staff, community and external organization who participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.

Indicator 33: School director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.

Indicator 34: Percentage of teacher who works with professional ethics.

Promoted Indicator Group

Indicator 35: Learners and stakeholders who have widely opportunities to attain class or special project.

Indicator 36: The institution that processes special project every year.

Indicator 37: There is an annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.

Indicator 38: Institution processes all kinds of work by using quality assurance cycle (PDCA).

Indicator 39: Result of learners' quality development.

Indicator 40: Result of teachers' quality development.

Indicator 41: Institution development that is learning-resource.

CHAPTER V

CONCLUSION, DISCUSSION AND RECOMMEDATION

This present study aimed to construct indicators of internal quality assurance of the school providing both general and vocational education systems. The main study was conducted with administrators, teachers, students, and stakeholders of Kampong Chheuteal High School and the Kampong Chheuteal community.

The study lasted for 18 weeks from December 2011 to April 2012. It was carried out in four phases: first week to third week, researcher orientated participants to understand the concept of indicators and how to construct and use them in instruction. Fourth week to eighth week, indicator checklist and interview were administered with experts in order examine and adjust indicators of ONESQA and OBEC for internal quality assurance. Ninth week to thirteenth week, focus group discussions were administered with teachers, parents, and learners in order examine and adjust indicators of ONESQA and OBEC for internal quality assurance. Fourteenth week to eighteenth week, Stufflebeam Checklist and questionnaire were employed with school administrators and teachers in order to investigate concerns and challenges of implementing indicators of internal quality assurance.

The data obtained from expert interview and focus group discussion were summarized using content analysis. The data obtained from Stufflebeam Checklist was statistically analyzed by mean *(M)*. The data obtained from questionnaires was statistically analyzed by mean *(M)*, standard deviation *(SD)*, skewness *(Sk)*, and kurtosis *(Ku)* to determine respondents' satisfaction on each indicator.

Then, researcher proposed possible indicator model of internal quality assurance of the school providing both general and vocational education systems as the guideline for teacher or internal evaluator who is going to do the internal quality assurance.

Research Conclusion

The conclusions of the study were summarized into three areas: indicator development from expert interviews and focus group discussions, concerns and challenges in implementing indicators of internal quality assurance, and proposing possible indicator model of internal quality assurance.

Appropriate Indicators of Internal Quality Assurance

From the expert interview and focus group discussion, researcher could accomplish 41 indicators of internal quality assurance of the school providing both general and vocational education systems. There were 29 indicators for Basic Indicator Group that consisted of 5 convergent indicators between general and vocational education systems, 13 indicators for general education, and 11 indicators for vocational education. There were 5 indicators for Identity Indicator Group that consisted of 2 convergent indicators, 2 indicators for general education, and 1 indicator for vocational education. There were 7 indicators for Promoted Indicator Group that consisted of one convergent indicator, 3 indicators for general education, and 3 indicators for vocational education.

Concerns and Challenges in Implementing Indicators

Actually, Cambodian educational quality evaluation is based on final examination. It means that evaluation system is based on output only, but, this research study would implement the indicators of internal quality assurance which

assessed with inputs, processes, and outputs of school elements. Hence, concerns and challenges were encountered in this process of indicator implementation on internal quality assurance.

Internal Quality Evaluation Result

Inputs of this school were good on each element. All elements of this school were satisfied by teachers, leaners, and audiences. Teachers and internal evaluators had a little chance to study about connecting indicators to measure internal quality assurance.

Processes of this kind of school were good. Teachers and educational staff processed their work as their duties and they were responsible for those of duty results.

Outputs of this school were good such as learners' skills on using technology, knowledge utilization in solving problem, like in reading and searching for knowledge and percentage of dropout school were satisfied by teachers and audiences.

Concerns

Teachers and internal evaluators should be well-prepared in applying indicators for internal quality assurance of the institutions. Teachers and internal evaluators should set guideline for applying indicators of internal quality assurance.

Teachers and internal evaluators need to know the process of working with indicators of internal quality assurance. Moreover, they should identify gains and difficulties of using indicators of internal quality assurance.

Teachers and internal evaluators should know what they would attain both short-term and long-term instruction. On the other hand, teachers and internal evaluators should understand about how to report or communicate the indicators of

internal quality assurance to learners, and parents or guardians. Lastly, teachers and internal evaluators should be aware with evaluation result. They should use evaluation result to plan for new work in school level.

Challenges

The adoption of indicators of internal quality assurance as a framework for structuring education and training systems carried implications for the ways in which the necessary indicator model of internal quality assurance were provided.

Teachers and educational staff did not have insightful understanding about the contents of indicators of internal quality assurance. And they did not know the method of organizing or communicating their work with indicators of internal quality assurance. On the other hand, teachers did not have prior experience to learn about indicators of internal quality assurance. Most of them found that doing quality assurance seemed to add extra burden for them. Then, most teachers have always done the internal quality assurance as academic documentation preparation.

Teachers and internal evaluators should be trained to be aware in applying indicators of internal quality assurance. Lastly, teachers and internal evaluators should understand that doing internal quality assurance is an administration system which could strengthen quality of instruction.

The adoption of indicators of internal quality assurance as a framework for structuring education and training systems carried implications for the ways in which the necessary indicator model of internal quality assurance were provided.

Propose Possible Model Indicator of Internal Quality Assurance

After analyzed and synthesized on the indicators of internal quality assurance obtained from interview, focus group discussion, and internal evaluation, researcher

found that possible indicator model of internal quality assurance for the school providing both general and vocational education systems which had been developed were appropriate with this kind of dual-system school consisted of 41 indicators which compose of 9 components. The 9 components of indicators were the result of two-dimension indicator separation. Those 2 dimensions are characteristic of indicator and type of education.

Discussion

In this research study was aimed to examine indicators of internal quality assurance of the school providing both general and vocational education systems from experts' perspectives and empirical data. Researcher also aimed to investigate concerns and challenges in implementing indicators of internal quality assurance of the school providing both general and vocational education systems. Researcher also aimed to propose possible indicator model of internal quality assurance.

1. Appropriate Indicators of Internal Quality Assurance

This research result figured that indicators of internal quality assurance of the school providing both general and vocational education systems through expert selection consisted of 41 indicators. All indicators were categorized into 3 aspects, Basic Indicator Group, Identity Indicator Group, and Promoted Indicator Group. Because, some original indicators were cut-out and some new indicators were added. This impelled the indicators to be consistent with this kind of school context and empirical situation. Then, it enabled indicators of internal quality assurance to be the specific measurement tools that could help to conduct effective instruction. This indicator development depended on empirical data which was consistent with the

literature review which was defined by (Nunglak Virachai, B.E. 2542; Sirichai Kanjanawasee, 2009).

The newly-developed indicators of internal quality assurance were very appropriate with this kind of dual-system school context because vocational education of this school was modeled after Thailand's vocational education while Cambodian education was similar to the Thailand's one.

Through the meaningful and authentic indicator concept, indicator development provided teacher and internal evaluator with many opportunities to do individual work or collaboratively work in groups in consistent with of quality assurance concepts that identified the internal quality assurance system, taken as a whole.

Furthermore, indicator development offered teacher and internal evaluator to assess their duties with indicators of internal quality assurance.

The Procedure of Indicator Development

This research result indicated that indicator development obtained from expert interviews and focus group discussions. This technique was the process of data collection from respondents following purposive problem required. Hence, researcher obtained insight and detailed data. By using this technique, researcher could group variables that related to situation required depending on theoretical cause-effective principles. He/she could process it by utilizing experts in that major to identify and develop indicators depending on empirical data and enabled data to analyze to group variables by using basic statistic criteria (Johnstone, 1981; Rosnee Binsamaair, 2006). Thus, indicator development of internal quality assurance of the school providing both general and vocational education systems was approximately the same. It was a

confirmation that indicator development by using experts and research concepts. Insight theory would allow researcher to obtain construct-validity indicators and construct-validity indicators as empirical data. Therefore, indicator development by using experts, was a good deal because it could help researcher to save time in developing indicators because experts could analyze, synthesize and summarize those indicators. Then, researcher could take those indicators to process as soon as he could. It was different from statistical technique that needs to collect data before analyzing data to develop indicators. But indicator development by using statistics enabled indicators pass through analyzing process. Therefore, researcher could confirm significance of indicators that they were good representative in measuring or evaluating those problems. So, it was information that concurrent with empirical situation. It was the useful technique that could be used to set concept in adjusting and developing indicators to fulfill educational measurement and evaluation.

In this indicator development, varieties of indicator model of quality assurance were extensively employed in both types, general and vocational education systems, to meet the internal standard quality of institution. In this study participants were encouraged to work through the indicator selection, indicator development, and indicator implementation. Result of this study was consistent with a major principles defined by (ONESQA, B.E. 2542; Nunglak Virachai, B.E. 2542; Sirichai Kajanawasee, 2009).

Through the meaningful and authentic indicator concept, indicator development provided teachers and internal evaluators with many opportunities to do individual work or collaboratively work in groups.

Furthermore, indicator development offered teacher and internal evaluator to assess their duties with indicators of internal quality assurance.

2. Concerns and Challenges in Implementing of indicators

The purpose of this objective, to investigate the concerns and challenges in implementing indicators of internal quality assurance, was achieved by interviewing with teachers, doing the internal quality evaluation, indicator selection by using Stufflebeam Checklist, and questionnaire of respondents' satisfaction via a set of questionnaire.

Internal Quality Evaluation Result

Inputs of this school were good but some problem still persisted such as qualified teachers, the understanding of preparing quality assurance documents, and the experience of connecting indicators to measure internal quality assurance. This was because of personnel administration of related stakeholders. On the other hand, teachers had many duties to perform as plan required. They were not thoughtful aware of exactly what the proposal would translate to once on the ground. The fact is the internal quality assurance is a continuous process that requires continuous outputs.

Processes of this kind of school were good but some problems still persisted such as planning always missed while teacher worked. On the other hand, teacher did not understand how to work or perform their duties as plan set. Moreover, internal evaluation was conducted periodically. Afterward evaluation result would have errors or not be consistent to empirical situation or late to report publicly. This was because school and teacher usually think that teaching is their daily job for years, therefore, they rarely kept the proof while they were working. Hence, when teacher wanted to do report on their teaching quality, they may encounter with some difficulties.

Outputs of this school were good but some concerns still persisted such as learners' skill on using technology, knowledge utilization in solving problem, like in reading and searching for knowledge, and percentage of dropout school. This was because of varieties of background knowledge and skills that learners owned.

In conclusion, many teachers and internal evaluators criticized early approaches and defended academe's traditional methods for quality assurance even though they were largely internal and not transparent to external audiences.

Concerns

Teachers or internal evaluators may not know the process of working with indicators of quality assurance. They did not understand that it was a daily job not extra burden on their teaching job. Moreover, teacher and internal evaluator may not know the gains and difficulties of using indicators of internal quality assurance. Thus, internal evaluator would never experience in working with indicators of internal quality assurance. Teachers and internal evaluators did not know how to report or communicate the indicators of internal quality assurance to learners, and parents or guardians. Lastly, internal evaluator was not aware with evaluation result and never use that result to plan for new work or task.

So to encounter with these concerns, teachers and internal evaluators should:

- be well-prepared to apply indicators of internal quality assurance and be set guideline of indicators of internal quality assurance.

- understand the process of working with indicators of internal quality assurance. Then, they should identify gains and difficulties of using indicators of internal quality assurance.

- understand about how to report or communicate the indicators of internal quality assurance to learners, and parents or guardians. Lastly, teachers and internal evaluators should be aware with evaluation result. They should use evaluation result to plan for new work in school level.

Challenges

The adoption of indicators of internal quality assurance as a framework for structuring education and training systems carried implications for the ways in which the necessary indicator model of internal quality assurance were provided. But, teachers and educational staff did not have insight understanding about the contents of those indicators of internal quality assurance. And they did not know the method of organizing their work with indicators of internal quality assurance. On the other hand, teachers did not have prior experience to learn about indicator of internal quality assurance. Most teachers found that doing quality assurance seemed to add extra burden for them. They did not understand that doing quality assurance was one part of administration. Most of them always do the internal quality assurance as academic document preparation.

Therefore, to encounter with this challenges, teachers or internal evaluators should be trained to be aware with significance of indicators of internal quality assurance. Teachers and internal evaluators should set indicators of internal quality assurance as administration system. Schools should have a policy and associated procedures for the assurance of the quality and standards. They should also commit themselves explicitly to the development in which recognizes the importance of quality, and quality assurance, in their work. To achieve this, schools should develop and implement a strategy for the continuous enhancement of quality. Schools should

have ways of satisfying themselves that staffs involved with the teaching of students are qualified and competent to do so. Students should be assessed using published criteria; regulations and procedures which are applied consistently.

School should give teachers or internal evaluators good inspiration in working with the quality assurance. Otherwise, school director should do the internal quality assurance as the normal and daily work, not do it as the document preparation. All proofed document were, which were utilized in following up or evaluating learners' achievement or diary activities, documents that teacher and internal evaluator did during their normal duties.

3. Possible Model Indicator of Internal Quality Assurance

The indicators of internal quality assurance could relate what goes on in school real life situation, needs, and challenges. In contrast, these days, learner evaluation was based on paper-pencil test only. Thus, this indicator model could develop kind of interest in school work that impels learners to come to school. Teachers could use indicators of internal quality assurance to identify instruction, otherwise, it can provide experience in planning, in problem-solving and critical group discussion or thinking, and also impel power of observation, of asking questions, of searching for information. Indicators of internal quality assurance could share a combination of common instruction, adjustment to challenges and situations, differences in needs, and interests toward good human relationships.

This research objective is aimed to propose possible model indicator of internal quality assurance in which consists of three aspects: Basic Indicator Group, Identity Indicator Group, and Promoted Indicator Group.

Possible indicator model of internal quality assurance for the school providing both general and vocational education systems which had been developed were appropriate with this kind of dual-system school context consisted of 41 indicators.

Possible Indicator Model of Internal Quality Assurance was designed to present the indicator content and the use of indicators in doing the internal quality assurance. Researcher found that indicators of internal quality assurance contacted with school process, teacher instruction, learner's study, and community cooperation.

Possible Indicator Model of Internal Quality Assurance provided interactional duties in which teachers or internal evaluators were provided with opportunities to engage in many types of duties that required them to collaboratively work with school administrators, teachers, learners, stakeholders, and communities.

Limitation of the Study

Although the present study achieved its objectives, some kinds of limitation were found in this study. Firstly, the school recruited teachers without occupational skill to be vocational teachers. Thus, the efficiency of instruction was still limited. On the other hand, it was possible that teachers may not pay fully attention to indicator development of internal quality assurance as much as they should do. Secondly, the time constraint was also problem as the whole process only lasted 18 weeks. Thirdly, the participants' background knowledge was also an obstacle to reach the goal.

Recommendation for Utilization

1. This research result indicated that indicators of internal quality assurance for the school providing both general and vocational education systems were very significant ones.

Therefore, school administrators should consider this set of indicators as administration instruments.

2. School should develop teachers or internal evaluators to understand significance of indicators of internal quality assurance.

Recommendation for future research

1. This research study was conducted with one school only. For the future research, researcher should develop standard and indicator criteria to evaluate and make data collection with many schools and analyze data with confirmatory factor analysis.

2. Researcher should develop training guideline to train teachers or internal evaluators to be aware with indicators of internal quality assurance utilization.

REFERENCES

Thai

การศึกษาขั้นพื้นฐาน, กรม. **มาตรฐานวิทยาลัย 2539.** กรุงเทพฯ: โรงพิมพ์คุรุสภาลาดพร้าว, 2542.

กฤติยา ศิลป์ศรีกุล. **การพัฒนาตัวบ่งชี้เชิงคุณภาพของการปฏิบัติงานของคณะกรรมการโรงเรียน:**
　　　การศึกษากรณีโรงเรียนเพชรน้ำใจ. วิทยานิพนธ์ปริญญามหาบัณฑิต, สาขาวิชาวิจัย
　　　การศึกษา ภาควิชาวิจัยการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย,2544.

คณะกรรมการการการอาชีวศึกษา, สำนักงาน. **พระราชบัญญัติการศึกษาอาชีวศึกษา 2551** [online].
　　　2551. Available from: http://www.thailandlawyercenter.com [2011, Sept].

คณะกรรมการการศึกษาแห่งชาติ, สำนักงาน. **การศึกษาในประเทศไทย.** กรุงเทพฯ: สำนักพิมพ์ ห้าง
　　　หุ้นส่วนจำกัดฟันนีพับบลิซซิ่ง, 2543.

คณะกรรมการดำเนินการ โรงเรียนพระราชทาน.**วิทยาลัยกำปงเฌอเตียล: สายใยไทย-กัมพูชา.**
　　　กรุงเทพฯ : โรงพิมพ์จุฬาลงกรณ์มหาวิทยาลัย, 2548.

จุฬาลักษณ์ ขันธบุตร. **การพัฒนาตัวบ่งชี้รวมความสำเร็จในการจัดการศึกษาแบบเรียนร่วมของ**
　　　โรงเรียนสังกัดสำนักงานคณะกรรมการประถมศึกษาแห่งชาติ.วิทยานิพนธ์ปริญญา
　　　มหาบัณฑิต, สาขาวิชาวิจัยการศึกษา ภาควิชาวิจัยการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์
　　　มหาวิทยาลัย, 2544.

โชคชัย สิรินพมณี. **การพัฒนาตัวบ่งชี้ประสิทธิภาพการดำเนินงานของหน่วยศึกษานิเทศก์**
　　　สำนักงานการประถมศึกษาอำเภอ โดยใช้พีดับเบิ้ลยูพีและการสัมภาษณ์กลุ่มเจาะจง.
　　　วิทยานิพนธ์ปริญญามหาบัณฑิต, สาขาวิชาการวัดและประเมินผลการศึกษา ภาควิชาวิจัย
　　　การศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย, 2540.

เซียงเป็ก.**อนาคตภาพของวิทยาลัยกำปงเฌอเตียล แห่งราชอาณาจักรกัมพูชา.** วิทยานิพนธ์ปริญญา
　　　มหาบัณฑิต, สาขาวิชาวิจัยและพัฒนาท้องถิ่น ภาควิชาพนมดงรักศึกษาคณะศิลปะศาสตร์
　　　มหาวิทยาลัยราชภัฏสุรินทร์, 2548.

ต้นหยง วิทยานนท์. **การพัฒนาตัวบ่งชี้บทบาทครูและนักเรียนในการเรียนการสอนโดยใช้การวิจัย**
　　　เป็นฐาน ในระดับการศึกษาขั้นพื้นฐาน. วิทยานิพนธ์ปริญญามหาบัณฑิต, สาขาวิชา วิจัย
　　　การศึกษา ภาควิชาวิจัยและจิตวิทยาการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย,
　　　2547.

ธีรวัฒน์ เลื่อนฤทธิ์. **การพัฒนาตัวบ่งชี้คัดสรรการปฏิบัติงานตามมาตรฐานวิชาชีพครู.** วิทยานิพนธ์
    ปริญญามหาบัณฑิต, สาขาวิชา วิจัยการศึกษา ภาควิชาวิจัย และจิตวิทยาการศึกษา คณะครุ
    ศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย, 2552.

นงลักษณ์ วิรัชชัย. **โมเดล: สถิติวิเคราะห์สำหรับการวิจัย.** พิมพ์ครั้งที่ 3กรุงเทพมหานคร:
    สำนักพิมพ์แห่งจุฬาลงกรณ์มหาวิทยาลัย**,** 2544.

นันทินีภูมรินทร์. **การพัฒนาตัวบ่งชี้รวมที่เหมาะสมสำหรับการประเมินการทำงานกลุ่มของ**
    นักเรียน. วิทยานิพนธ์ปริญญามหาบัณฑิต, สาขาวิชาการวัด และประเมินผลการศึกษา
    ภาควิชา วิจัยการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย, 2546.

นุชสิริ โค้นหล่อ. **การพัฒนาตังบ่งชี้มาตรฐานการศึกษาเพื่อประเมินคุณภาพภายนอก การจัดการ**
    ศึกษาโดยครอบครัว.วิทยานิพนธ์ปริญญามหาบัณฑิต, สาขาวิชาวิจัยการศึกษา ภาควิชาวิจัย
    การศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย, 2545.

รัชดาภรณ์ สุราเลิศ. การพัฒนาตัวบ่งชี้รวมการจัดการเรียนการสอนที่เน้นผู้เรียนเป็นสำคัญใน
    โรงเรียนประถมศึกษา. วิทยานิพนธ์ปริญญามหาบัณฑิต, สาขาวิชาวิจัยการศึกษา ภาควิชา
    วิจัยการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย, 2545.

รัตนาพร ไกรถาวร. **การพัฒนาตัวบ่งชี้รวมประสิทธิผลการปฏิบัติงานของคณะกรรมการ**
    สถานศึกษาขั้นพื้นฐาน สังกัดสำนักงานคณะกรรมการการประถมศึกษาแห่งชาติ.
    วิทยานิพนธ์ปริญญามหาบัณฑิต, สาขาวิชาวิจัยการศึกษา ภาควิชาวิจัยการศึกษา คณะครุ
    ศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย, 2545.

รับรองมาตรฐานและประเมินคุณภาพการศึกษา (องค์การมหาชน), สำนักงาน. **คู่มือการประเมิน**
    คุณภาพภายนอกรอบสาม (พ.ศ. 2554-2558) ระดับการศึกษาขั้นพื้นฐานฉบับสถานศึกษา.
    กรุงเทพมหานคร. บริษัท แม็ทช์พอยท์,2554.

รับรองมาตรฐานและประเมินคุณภาพการศึกษา (องค์การมหาชน), สำนักงาน. **คู่มือการประเมิน**
    คุณภาพภายนอกรอบสาม (พ.ศ. 2554-2558) ด้านอาชีวศึกษา ฉบับสถานศึกษา.
    กรุงเทพมหานคร. บริษัท แม็ทช์พอยท์,2554.

โรสนี บินสะมะแอ. **การพัฒนาตัวบ่งชี้การประเมินคุณภาพภายนอกสำหรับโรงเรียนเอกชนสอน**
ศาสนาอิสลาม.วิทยานิพนธ์ปริญญามหาบัณฑิต, สาขาวิชาวิจัยการศึกษา ภาควิชาการวัด
และประเมินผลการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย,2549.

วิชาการ, กรม. **การประกันคุณภาพการศึกษาภายในสถานศึกษาระดับการศึกษาขั้นพื้นฐานแนว**
ทางการตรวจสอบและทบทวนคุณภาพภายในของสถานศึกษา (ลำดับที่ 5). กรุงเทพฯ: โรง
พิมพ์คุรุสภาลาดพร้าว, 2544.

ศิริชัย กาญจนวาสี. **ทฤษฎีการประเมิน.พิมพ์ครั้งที่ 3 และ 7.** กรุงเทพมหานคร: สำนักพิมพ์แห่ง
จุฬาลงกรณ์มหาวิทยาลัย,2545, 2550.

เศรษฐภรณ์ หน่อคำ. **การพัฒนาตัวบ่งชี้คุณภาพการจัดการเรียนการสอนตามหลักสูตรกระทรวง**
ศึกษาธิการเป็นภาษาอังกฤษในโรงเรียนสอนภาษา. วิทยานิพนธ์ปริญญามหาบัณฑิต,
สาขาวิชา วิจัยการศึกษา ภาควิชาวิจัยและจิตวิทยาการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์
มหาวิทยาลัย, 2548.

สุวิมล ว่องวาณิช. **การประเมินการศึกษาแนวใหม่.**กรุงเทพมหานคร: สำนักพิมพ์แห่งจุฬาลงกรณ์
มหาวิทยาลัย,2550.

สุวิมล ว่องวาณิช.**การประเมินในชั้นเรียน.** กรุงเทพมหานคร: สำนักพิมพ์แห่งจุฬาลงกรณ์
มหาวิทยาลัย,2544.

อานุภาพ ธงภักดี. **การพัฒนาตัวบ่งชี้รวมคุณภาพการศึกษาของคณะครุศาสตร์ในสถาบันราชภัฏ**
โดยกลุ่มบุคลากรภายในและกลุ่มผู้ทรงคุณวุฒิภายนอก.วิทยานิพนธ์ปริญญามหาบัณฑิต,
สาขาวิชาวิจัยการศึกษา ภาควิชาวิจัยการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย,
2543.

English

Accreditation Committee of Cambodia (2003).*Minimum Standard for Institutional Accreditation.*[Online]. Available form: http://www.acc.gov.kh.[2011, Sept].

Anstey, E. (1977). *An introduction to selection interview.* Crown copyright.

Asian Development Bank (2003). *Education Sector wide Approach, Cambodia Education Case Study.* Phnom Penh, Cambodia.

Barbour, S. R., and Kinzinger, J. (1999).*Developing focus group research: Politics, theory and Practic*e. Sage Publication, London.

Barrie, S., andGinns, P. (2007). The Linking of national teaching performance indicators to improvements in teaching and learning in classrooms. *Quality in Higher Education, 13 (3): 257-286.*

Belawati, T., and Zuhairi, A. (2007). The practice of a quality assurance system in open and distance learning: a case study at Universitas Terbuka Indonesia (The Indonesia Open University). *International Review of Research in Open Distance Learning.8 (1): 1-15.*

Black, J. M. (1970). *How to get results from interviewing.* McGraw-Hill.

Chantheng Meak. (2010). *Proposed Guidelines for Utilizing Community Learning Resources in Social Studies Instruction in Secondary Schools: A Case Study of Kampong Chheuteal High School, Kingdom of Cambodia.* Master's thesis, Department of Teaching Social Studies, Faculty of Education, Chulalongkorn University.

Cheng, Y. J. (2003). Developing quality criteria for application in the education sector.*Journal of Chinese Education Review, 6 (12).*

Coates, H. (2009). Building quality foundation: indicators and instruments to measure the quality of vocational education and training. *Journal of vocational education and training, 61 (4): 517-534.*

Davies, P. (1979). *The American Heritage Dictionary of the English Language*. New York, American Heritage Publishing.

Deluca, J. M., and Deluca, F. N. (2004). *24 hours to the perfect interviews.* McGraw-Hill.

Donaghy, W. C. (1984). *The Interview: skills and application.* Dallas: Scott, Foreman.

Geletu, G. M. (2009). *An Assessment of the Current Status of Quality of Education in Private Higher Education Institutions,* Master's thesis, Department of Curriculum and Teachers' Professional Development Studies, Faculty of Arts in Curriculum and Instruction, Addis Ababa University .

Gendron, B. (2009). The vocational baccalaureate: a gateway to higher education? *Ueropean journal of vocational training 46(1): 4-27.*

Gillham, B. (2000). *The research interview*. Printed and bound in Great Britain by TJ International, Padstow, Cornwall.

Girma, B. (2010). Even in Sweeden? Excluding the included: Some reflections on the consequences of new policies on educational processes and outcomes, and equity in education. *International journal of special education 25(3): 148-159.*

Guthrie, H. (2010). *Professional development in the vocational education and training work force.* South Australia's Training and Skills Commission, National center for vocational education research.

Harman, G. (1996). *Developing and Managing Quality Assurance for Higher Education Systems and Institutions in the Asia and the Pacific*, Asia-Pacific Centre of Educational Innovation for Development, Bangkok.

Jita, L. C. (2006). Theorizing stakeholder participation within the higher education quality assurance system in South Africa. *South African Journal of Higher Education 20(6): 924-931.*

Johnstone, J.N. (1981). *Indicators of education system.* London: The Anchor Press.

Kampong Chheuteal High School (2003, 2005, 2008).*School Reports, Academic year 2001-2008.*Published by Support of the Faculty of Education, Chulalongkorn University.

Kampong Chheuteal High School (2009, 2010, 2011).*School report.Academic year 2009-2011.*Kampong Thom, Cambodia.

Kimcheang Hong (2010). *Effects of Media-Based Instruction in English for Junior Tour Guide Course on Speaking Ability of Students at Kampong Chheuteal High School.* Master's thesis, Department of Curriculum, Instruction, and Educational Technology, Faculty of Education, Chulalongkorn University.

Kitzinger, J. (1994). The methodology of focus groups: The importance of interaction between research participants. *Sociology of Health and Illness 16 (1): 103-21.*

Langford, J., and McDonagh, D. (2003). *Focus groups: supporting effective product development.* London: Taylor and Francis.

Lim, D. (2009). Testing the effectiveness of a quality assurance system: the example of Hong Kong. *Journal of Vocational Education and Training 61 (2):183-202.*

Mardar, S. M. (2010). A study on the profile of knowledge, skills, abilities and other key requirements necessary to the new personnel in positions with attributions

in the field of continuous professional training. *Journal Plus Education 6 (1): 134-144.*

Matson, L. P. (2011). Internal quality control and external quality assurance in the IVF laboratory.*Concept Fertility Center, King Edward Memorial Hospital: 156-165.*

Millar, A. G., and Twinig-Ward, L. (2005).*Monitoring for sustainable Tourism Transition. The challenge of developing and using indicators.* The British Library, London, UK.

Ministry of Education Youth and Sport (2003). *Education in Cambodia*. Phnom Penh, Cambodia.

Ministry of Education Youth and Sport (2006). *Policy for life skills education*. Pedagogical research department, USAID funded. Phnom Penh, Cambodia.

Ministry of Education Youth and Sport (2010). *Educational strategy plan for 2009-2013.* Phnom Penh, Cambodia.

Ministry of Education Youth and Sport of Cambodia (2001). Cambodian education in the past. Phnom Penh, Cambodia.

Ministry of Education Youth and Sport of Cambodia (2005). *Education Strategic Plan 2006-2010.* Phnom Penh, Cambodia.

Ministry of Education Youth and Sport of Cambodia (2006). *Core based curriculum for general education*. USAID funded. Phnom Penh, Cambodia.

Morgan. D. (1988).*Focus groups as qualitative research.*London. [Online]. Available from:http://en.wikipedia.org/wiki/Focus_group [2011, July].

National Education Act (B.E.2542) (1999) and amendments (second national

    education act B.E. 2545 (2002). [Online]. Available from:

    http://www.onesqa.or.th/en/ publication/ nation_edbook. [2011, Sept].

Qureshi, M. A. (1996). *Current trends and issues in technical and vocational in*

    education in Asia and the Pacific. The educational resources information

    center eric.

Raisanen, A., and Rakkolainen, M. (2009). Social and communicational skills in

    upper secondary vocational education training. *Journal of US-China*

    Education Review 6 (12): 36-45.

Rectangle Strategy (2010). *Strengtheningthe quality of education*.[Online].Available

    from http://www.vuthdevelop.com/2010/02/strengthening-quality-of-

    education_1130.html [2011, Sept].

Rio-Roberts, M. D. (2011). How I learned to Conduct Focus groups. *The Qualitative*

    Report 16 (1): 312-315.

Royal Government of Cambodia (2002).*National Strategy: Education for All National*

    plan 2003-2015. Phnom Penh, Cambodia.

Royal Government of Cambodia (2003). *National Strategy: Education for All.* Phnom

    Penh: Secretariat of National Committee for Education for All.

Royal Government of Cambodia (2005). *National Strategy 2006-2010: Education for*

    All. Phnom Penh: Secretariat of National Committee for Education for All.

Royal Kingdom of Cambodia (2006). *Appraisal of Basic Education Component of*

    Cambodia's Education Strategy Plan. Phnom Pehn, Cambodia.

Scott-Little, C., and Kagan, S. L., and Frelow, V. S. (2003).Creating the conditions

    for success with early learning standards: Results from a national study of

state-level standard for children's learning prior to Kindergaten. *Early childhood research and practice, 5 (2).*

Seng, D. (2007). *Accounting education in Cambodia.* University of Otago, New Zealand.

Smeenk, S., and Teelkun, C. (2003). *Toward a Single Quality Assessment in Higher Education. Composing an outline for International Comparative Quality Assessment.*University of Nijmegn, Amsterdam, Netherlands.

Stufflebeam, D. L. (1999). *Program evaluation models meta-evaluation checklist (Based on the program evaluation standards).* [Online]. Available from: http://www.wmich. edu/ evalctr/ archive_checklists/eval_model_metaeval.pdf. [2011, August].

UNESCO (2007). Learners and new higher education spaces: Challenges for Quality Assurance and Recognition of Qualifications. *Third Global Forum on International Quality Assurance, Accreditation and Recognition of Qualifications.*Dar es Salaam, Tanzania.

UNESCO (2007). *Making basic choices for external quality assurance systems.* Paris.

UNESCO (2010). *Education counts toward the millennium development goals.* Paris 07 SP, France.

Upali M. S. (2010). *The changing times: General and the vocational training system in Sri Lanka.* Bandaranayake Memorial International Conference Hall, Colombo, Sri Lanka.

Vicsek, L. (2010). Issue in the analysis of focus group: Generalisability, Quantifiability, Treatment of Context and Quotations. *The qualitative Report 15 (1): 122-141.*

APPENDICES

APPENDIX A

SUMMARY ON INTERVIEW AND FOCUS GROUP DISCUSSION

Basic Indicator Group for General Education

Indicator1: learners have good physical and mental health. All experts accepted with this indicator. They indicated that this indicator was very appropriate for the school providing both general and vocational education systems. There was some idea support this indicator:

It is an indicator that covers with all learners' competency and responsibility (Expert 1: Jan, 16, 12). It was shown that learners were confident for attaining their class through-out school year (Expert 2: Jan, 25, 12). But with word "aesthetics" seems like a new terminology for learners. Then, we should translate it and revise it to be new indicator. This new indicator could help learner to get more benefit if they are trying to adjust themselves in harmony with that indicator (Expert 5: Feb, 10, 12). We should set new criteria for score assessment of the indicator because a new criterion is easy to understand and easy to make data collection (Teacher group 1: Mar, 8, 12).

Indicator 2: Learners are endowed with morality, ethics, and desirable value. All experts accepted with this indicator.

This indicator presented learners' responsibility to parents and school (Expert 1: Jan, 16, 12; Expert 5: Feb, 10, 12). To follow up learners performing their job at home as a good children was very difficult, so we should follow them up at school such as following up daily attendance and drop-out rate (Teacher group 1: Mar, 8, 12; Parent group: Mar, 12, 12).

Indicator 3: Learners have skill in seeking knowledge themselves and study continuously. All experts accepted with this indicator.

They gave some idea on its sub-indicator. It is true that learner earn knowledge through experience with others. But we would like learners to know how to use technology in earning that knowledge. So, they could demonstrate that knowledge in public. This concept was also useful because most learners weren't brave enough to present their thought, achievement in public (Teacher group 1: Mar, 8, 12; parent group: Mar, 12, 12).

Indicator 4: Learners are able to think and link it to empirical practice. All experts accept with this indicator, but they had some idea on some sub-indicators.

Learners were trained to think not to remember (Expert 4: Jan, 20, 12). When learners have enough knowledge, we think that they will use that kind of knowledge to set the goal and expectation for the future work (Expert 2: Jan, 25, 12).

Learners could think, analyze and synthesize on new knowledge. So, they should brave enough to share or demonstrate those methods of thinking, analyzing to friends or public (Teacher group 1: Mar, 8, 12; parent group: Mar, 12, 12).

Indicator 5: Learners' study achievement. All experts and focus group discussion accepted with this indicator.

Learners need to pass national test at the end of academic year (All experts).

Indicator 6: The efficiency of instruction management emphasis on learners-centered approach. All experts accepted this indicator. They gave some comment for this indicator.

Learners were trained to think and explore new knowledge throughout study activities both inside and outside classroom. Teachers were moderators for learners in their study process. To assure learners' achievement, teachers could use multiple methods in evaluating learners (Expert 5: Feb, 10, 12).

Indicator 7: The efficiency of instruction and institution management. All experts accepted this indicator. They gave some more opinion on this indicator.

To strengthen administration, school should have network with other school or university or public organization (Expert 4: Jan, 20, 12).

Administration is the root or backbone of a unit. Stakeholders and educational staff should cooperate in managing school. All members of institution need to take responsibility on their profession instructed (Expert 1: Jan, 16, 12).

Indicator 8: Development of internal quality assurance by institution and educational district office. All experts accepted with this indicator.

Quality of institution should be strengthened by all educational staff. It was not anyone responsibility but it's all related agencies' responsibility. They should work together to achieve quality required (Expert 1: Jan, 12).

We accepted this indicator because if we perform a work without control or follow it up we will not know how our tasks should proceed or we will not know which direction our work's going (Expert 3: Feb, 15, 12; teacher group 1: Mar, 8, 12).

Identity Indicator Group for General Education

Indicator 9: Development result achieves philosophy, vision, mission and goal of institution construction. All experts accepted with this indicator. They gave some idea as following.

All stakeholders and educational staff need to cooperate with each other to help school to achieve vision of school construction. They should participate in setting or planning school's performance (Expert 1: Jan, 16, 12). On the other hand, school should assure that learner will have attitude as philosophy, vision, mission and goal of school construction (Expert 2: Jan, 25, 12; parent group: Mar, 12, 12).

Indicator 10: Development result follows the focus and strength with reflect as institutional identity. All experts accepted with this indicator. They had some more idea on this indicator.

All internal and external stakeholders of the institution should cooperate in school's task such as set the focus, strength, identity and performance plan. Because stakeholder knows school, community and market need well (Expert 1: Jan, 16, 12; Expert 4: Jan, 20, 12). It was true and fair because all the people had their own responsibility to work and need to participate in strengthening their own unit or organization (Learner group 1: Mar, 21, 12).

Actually, learners should have such attitude as set in the focus, strength and identity of institution (Expert 4: Jan, 20, 12).

Promoted Indicator Group for General Education

Indicator 11: Performance result of special project promotes school's position. All experts accepted with this indicator. They gave some more idea on this indicator.

School enhanced learners and stakeholder to participate in school projects and activities. It means that school was the center for spreading knowledge to the nearby community or society (Expert 1: Jan, 16, 12; Expert 5: Feb, 10, 12).

Special projects should be employed in school every year to help learners to achieve their goal (Expert 2: Jan, 25, 12; learner group 1: Mar, 21, 12).

Indicator 12: Result of institution promotion. All experts accepted with this indicator.

Actually, working process is a system work. So, it needs procedure to process itself (Expert 3: Feb, 15, 12).

Basic Indicator for Vocational Education

Indicator 1: Percentage of learners who complete class follow institutional standard. All experts accepted with this indicator. They added some more idea on this indicator.

Learners finish class mean they could finish their course work as identified in school's norm or Ministry of Education Youth and Sport's norm. Some learners can't finish their class as set in the school standard. Sometimes they drop-out school during their academic year (Expert 1: Jan, 16, 12; expert 5: Mar, 6, 12).

Indicator 2: Percentage of learners who pass national examination. All experts accepted with this indicator. They gave some idea on this indicator.

Teachers needed to follow up the percentage of learner who can pass or false the national test. Teacher and educational staff could use this information to plan or improve their teaching technique (Expert 2: Jan, 25, 12).

Teachers should pay more attention on this indicator because it can reflect what they taught to learners and it can tell teacher to prepare for new teaching technique or teaching plan (Teacher group 2: Apr, 2, 12).

Indicator 3: Percentage of learner who drop out school comparing to the first enrollment. All experts accepted with this indicator.

Teachers should be aware with this indicator because some of families in the rural area were very poor. So they always tried to stop their children from school to help them with their work (Teacher group 2: Apr, 2, 12; expert 3: Mar, 29, 12).

Indicator 4: Percentage of graduate is employed within one year. All experts accepted with this indicator. They added more phase and commented on some parts.

We should add more detailed phrase for this indicator. It is "they can establish their own business". This indicator will have more common idea for learners who already graduated (Expert 5: Mar, 1, 12).

Indicator 5: Number of qualified subjects which are concurrent with labor market requirement. All experts accepted with this indicator. They gave some more idea on this indicator.

All learners who have been instructed by this instruction need to be qualified as the subject they registered because school has enough expertized teachers in processing their responsibility (Expert 4: Mar, 24, 12).

School should find network to help to develop school's curriculum and school needs. It could help school to reach its goal of school construction (Learner group 2: Mar, 20, 12).

Indicator 6: Percentage of learner has morality, ethics, good occupational value, appropriate physic and good human relationship. All experts accepted with this indicator. They added some more concepts on this indicator.

This indicator presented learners' responsibility to parents, school and society. Learners prepared ready to attain class. It was concurrent with basic norm of the school and Ministry of Education Youth and Sport that want learner to attain class without absentee (Expert 2: Jan, 27, 12).

Learners have social awareness, good human relationship and occupational value they would be able to solve the problem or argument by using cause-effect principle as mentioned in general curriculum of Ministry of Education Youth and Sport (Teacher group 2: Apr, 2, 12).

Indicator 7: Number of time and kind of activity promote academy, morality, ethics and good occupational value. All experts accepted with this indicator.

To educate learners to be good people or good employee in the society or labor market, School needs to have enough time to promote academy and morality to learners. Learners need to have good physic and social awareness and occupational value (Expert 5: Mar, 1, 12).

We can make many separated activities or special projects to promote different kind of learners' benefit (Expert 1: Feb, 6, 12).

Indicator 8: Number of time and kind of activity promote environment conservation, custom and tradition. All experts accepted with this indicator.

To educate learners to be good people in the society, school needs to have enough time to promote environment conservation, custom and tradition to learners. Learners should have good physic and social awareness and occupational value as identified in school plan (Teacher group 2: Apr, 2, 12; parent group: Mar, 12, 12).

Indicator 9: Number of project or activity which shared knowledge and experience to learners. All experts accepted with this indicator.

Actually, school and teacher have made many projects or activities for learners to share knowledge among their friends or among teachers and learners. For example club study, tutor, group discussion… etc (learner group 2: Mar, 30, 12).

School holds special professional projects every year for learners. Learners could attain that course to get more skills from qualified guest speakers and experts (Teacher group 2: Apr, 2, 12; expert 5: Mar, 1, 12).

Indicator 10: Number of other units or organizations which cooperate with the institution. All experts accepted with this indicator.

Now there are 4 companies which cooperate with school to help and teach learners to be skilled graduates. They also allow learners to practice field study in those companies (Expert 1: Feb, 6, 12; expert 5: Mar, 1, 12).

The cooperation between school and other units enable school to strengthen its management structure. So, school should cooperate with other units thrice per year to set up activity or project to promote school or to do exchange study program (Teacher group 2: Apr, 1, 12).

Indicator 11: Permanent teacher proportion qualified in occupation for learner each subject skill. All experts accepted with this indicator. They had some more idea on this indicator.

Most of Cambodian classes always have a lot of learners for each teacher (More than 40 learners in a classroom) so the efficiency of instruction face with some problem (Expert 1: Feb, 6, 12).

Permanent teachers in some subject were over enough but some subjects are under the standard (Teacher group 2: Apr, 1, 12).

Indicator 12: Percentage of learners-centered utilization in training occupational skill. All experts accepted with this indicator.

Most of teachers use learners-centered approach to train occupational skill to learners in all grades (Expert 1: Feb, 6, 12).

This method was very popular and this method help learner to produce, to think, to find out what they learn. It was good for learner to practice their work frequently and continuously (Expert 5: Mar, 1, 12).

Learners-centered approach was the process that learner could share knowledge and way of thinking, way to solve the problem among their friends or

other people. Learner could help each other to think and learn in group. Learner had chance to show their opinion, request and present their thought in public (Learner group 2: Mar, 30, 12).

Indicator 13: Infrastructure management that is appropriate to the norm and comfort for learners. All experts accepted with this indicator. They added some more idea on this indicator.

Infrastructure of school is very appropriate to the norm and every comfortable for learners to earn their knowledge in each discipline (Expert 1: Jan, 27, 12).

Good infrastructure management helps to make school campus and view be interested by learners and audiences. Therefore, it will attract more learners to study in this school (Expert 3: Feb, 29, 12).

Indicator 14: Percentage of learner which is capable of applying knowledge and skills in solving problem systematically. All experts accepted with this indicator.

Learners always use their knowledge and skill to apply in daily life activity. They also could perform those knowledge and skill to public (Expert 4: Feb, 24, 12).

Graduates who graduated from this school have insight knowledge and skill required as set the goal of school construction. They could use those knowledge and skill to find work to do or they could solve the problem by using cause-effective principle (Teacher group 2: Apr, 24, 12).

Indicator 15: Risk management. All experts accepted with this indicator. They gave some more opinion on this indicator.

School prepared well with safety systems. School always trains learners how to be safe when they study or do field practice (Expert 5: Mar, 1, 12).

Teachers should know well with the subject that would be dangerous. They should know about how to use the equipment to protect them-selves or learners from harm. They could solve the problem which would happen during their study or practice systematically (Learner group 2: Mar, 30, 12).

Indicator 16: Number of educational staff that has been refreshed based on their duties. All experts accepted with this indicator. Some opinion was given for promoting this indicator.

Teachers have been developed every year to upgrade their knowledge and skill in teaching learners (Expert 1: Feb, 6, 12).

Nowadays, all of things are not static; they have been always developed every time such as knowledge, information technology. Therefore, if people stay still they will be out-dated people. So school and educational staff should develop its staff to accompany with those of global development (Expert 4: Feb, 24, 12).

Identity Indicator Group

Indicator 17: Development result follows philosophy, vision, mission and objective of institution construction. All experts accepted with this indicator. They gave some more opinion on this indicator.

Cooperation in development could make the working process go well in accord with school's philosophy, vision, mission and objective of institution construction (Teacher group 2: Apr, 1, 12).

Stakeholders have very special role in helping school to reach its philosophy, vision, mission and objective of school construction (Parent group: Mar, 12, 12).

Indicator 18: Development result follows focus, strength that reflects as institution identity. All experts accepted with this indicator. They had some more idea on this indicator.

School director, teachers and stakeholders cooperate in helping school. Thus, the achievement should reach focus, strength and objectives (Expert 1: Feb, 6, 12).

Learners had attitude following school strength and focus that can reflect as school identity (Teacher group 2: Apr, 1, 12). One indicator was added to this indicator group. It is Percentage of teacher who processes his/her work following professional ethics.

Promoted Indicator Group

Indicator 20: Result of learners' quality development. All experts accepted with this indicator. They had some more idea on this indicator.

The result of learners' quality development increases every year. Learners should have enough capacity follow the institution's goal after they graduate (Expert 3: Feb, 29, 12).

Indicator 21: Result of teachers' quality development. All experts accepted with this indicator.

The result of teachers' quality development increases every year. Teachers need to be qualified. Then, they will be satisfied by audience (Expert 5: Mar, 1, 12).

Indicator 22: Institution development that is learning-resource. All experts accepted with this indicator.

School and community always need each other, so school need to be the community learning-resource and community need to be the field practice for school (Parent group: Mar, 12, 12; teacher group 2: Apr, 1, 12).

Indicator 23: Educational participation and spreading study opportunity. All experts accepted with this indicator. They had some idea on this indicator.

School gives equal right for all kind of learners to attain class every academic year (Expert 3: Feb, 29, 12). And it was adjusted to be learners and stakeholders have widely opportunity to attain class or special project.

APPENDIX B

IOC of Stufflebeam Check list

No	Content	IOC	Other
To meet requirement for Utility, evaluation using the…evaluation model should:			
U1 Stakeholder identity			
1	Clearly identify the internal evaluators.	1	
2	Engage leadership figures to identify other stakeholder.	1	
3	Consult potential stakeholders to identify their information needs.	1	
4	With the client, rank stakeholders for relative importance.	1	
5	Arrange to involve stakeholders through the indicator construction processes.	1	
6	Keep the evaluation open to serve newly identified stakeholders.	1	
7	Address stakeholders' internal evaluator needs.	1	
8	Serve an appropriate range of individuate stakeholders.	1	
U2 Evaluator credibility			
1	Engage competent internal evaluators.	0.67	
2	Engage internal evaluators whom the stakeholders trust.	1	
3	Engage internal evaluators who can address stakeholders' concerns.	1	
4	Engage internal evaluators who are responsive to issues of gender, socioeconomic status, race and language and cultural difference.	1	

No	Content	IOC	Other
5	Assure that the indicator construction respond to key stakeholders' concerns.	1	
6	Help stakeholders understand indicator construction.	1	
7	Give stakeholders information on the evaluation plan's technical quality and practicality.	1	
8	Give stakeholders information on indicator construction's technical quality and practicality.	1	
9	Stay abreast of social and political forces.	1	
10	Keep interested parties informed about the indicator construction's progress.	1	
U3 Information scope and selection			
1	Understand the client's most important requirement.	1	
2	Interview stakeholders to determine their different perspectives.	1	
3	Assure that internal evaluator and client negotiate pertinent audiences, questions and required information.	1	
4	Assign priority to the most important stakeholders.	1	
5	Assign priority to the most important questions	0.67	
6	Allow flexibility for adding questions during the construction process.	1	
7	Obtain sufficient information to address the stakeholders' most important evaluation questions.	1	

No	Content	IOC	Other
8	Obtain sufficient information to assess the program's merit.	1	
9	Obtain sufficient information to assess the program's worth.	0.67	
10	Allocate the indicator construction effort in accordance with the priorities assigned to the needed information.	1	
U4 Value Identification			
1	Consider alternative sources of values for interpreting indicator findings.	1	
2	Provide a clear, defensible basis for value judgments.	1	
3	Determine the appropriate researcher to make the valuation interpretation.	0.67	
4	Identify pertinent societal needs.	1	
5	Identify pertinent customer needs.	1	
6	Reference pertinent laws.	1	
7	Reference, as appropriate, the relevant institutional mission.	1	
8	Reference the program's goals.	1	
9	Take into account the stakeholders' values.	1	
10	As appropriate, present alternative interpretations based on conflicting but credible value bases.	1	
To meet requirement for Feasibility, evaluation using the evaluation model should:			
F1 Practical Procedure			
1	Tailor methods and instruments to information requirements	0.67	
2	Minimize disruption.	1	

No	Content	IOC	Other
3	Minimize the data burden.	1	
4	Describe specific goal and process to participants.	1	
5	Choose procedures and participants in light of known constraints.	1	
6	Make a realistic schedule.	1	
7	Engage locals to help conduct indicator construction.	0.67	
8	As appropriate, make evaluation procedures a part of routine events.	1	
F2 Political validity			
1	Anticipate in different position of different interest group.	1	
2	Avert or counteract attempts to bias or misapply the finding.	1	
3	Foster cooperation.	1	
4	Involve stakeholders throughout the indicator construction.	0.67	
5	Agree on editorial and dissemination authority.	1	
6	Issue interim reports.	1	
7	Report divergent views.	1	
8	Report to right-to-know audiences.	1	
To meet requirement for Propriety, evaluation using the…evaluation model should:			
P1 Service orientation			
1	Assess needs of the program's customers.	1	
2	Help assure that the full ranges of rightful program beneficiaries are served.	1	

No	Content	IOC	Other
3	Promote excellent service.	1	
4	Identify program strength to build on.	1	
5	Identify program weakness to correct.	1	
6	Give interim feedback for program improvement.	1	
7	Inform all right-to-know audiences of the program's positive and negative outcomes.	1	
P2 Formal agreement, reach advance written agreement on			
1	Indicator construction purposes and questions.	1	
2	Audiences.	1	
3	Indicator construction reports.	1	
4	Editing.	1	
5	Release the reports.	0.67	
6	Indicator construction procedures and schedule.	1	
7	Confidentiality data.	1	
8	Evaluation staffs.	1	
9	Indicator construction sources.	1	
P3 Right of human subject			
1	Make clear to stakeholders that the program will respect and protect the rights of human subjects.	1	
2	Clarify intended uses of the indicators.	1	
3	Keep stakeholders informed.	1	
4	Follow due processes.	1	

No	Content	IOC	Other
5	Uphold civic right.	1	
6	Understand participant values.	1	
7	Respect diversity.	1	
8	Follow protocol.	1	
9	Honor confidentiality agreements.	1	
10	Do no harm.	1	
P4 Human interaction			
1	Consistently relate to all stakeholders in a professional manner.	1	
2	Maintain effective communication with stakeholders.	1	
3	Follow the institution's protocol.	0.67	
4	Minimize disruption.	1	
5	Honor participants' privacy rights.	1	
6	Honor time commitments.	1	
7	Be alert to and address participants' concerns about the indicator construction.	1	
8	Be sensitive to participants' diversity of values and cultural difference.	1	
P5 Disclosure of finding			
1	Define the right-to-know audience.	1	
2	Inform the audiences of the indicator construction's purposes and projected reports.	1	
3	Report all finding in typing.	1	

No	Content	IOC	Other
4	Report relevant points of view of both supporters and critics of the program.	1	
5	Report balanced, informed conclusions and recommendations.	1	
6	Disclose the indicator construction's limitation.	0.67	
7	In reporting, adhere strictly to a code of directness, openness, and completeness.	1	
8	Assure the reports reach their audiences.	1	
P6 Conflict of interest			
1	Identify potential conflicts of interest early in the indicator construction.	1	
2	Provide written, contractual safeguards against identified conflicts of interest.	1	
3	Engage multiple internal evaluators.	1	
4	Maintain indicator construction for independent review.	1	
5	As appropriate, engage independent participants to assess the indicators after construction.	1	
6	When appropriate release indicator construction procedures, data, and reports for public review.	0.67	
7	Have internal evaluator report directly to chief executive officer.	1	
8	Report equitably to all right-to-know audiences.	1	
9	Engage qualified persons to participate in the indicator construction.	1	

No	Content	IOC	Other
To meet requirement for Accuracy, evaluation using the…evaluation model should:			
A1 Program documentation			
1	Collect descriptions of the intended program from various written sources.	1	
2	Provide descriptions of the intended program from the client and various stakeholders.	1	
3	Describe how the program was intended to function.	1	
4	Maintain records from various sources of how the program operated.	1	
5	Describe how the program actually functioned.	1	
6	Analyze discrepancies between the various descriptions of how the program was intended to function.	1	
7	Analyze discrepancies between how the program was intended to operate and how it actually operated.	1	
8	Produce a technical report that documents the program's operations.	1	
A2 Context analysis			
1	Use multiple sources of information to describe the program's context.	1	
2	Describe the context's technical, social, political, organizational and economic features.	1	
3	Record instance in which individuals or groups intentionally or	1	

No	Content	IOC	Other
	otherwise interfered with the program.		
4	Record instances in which individuals or groups intentionally or otherwise gave special assistance to the program.	1	
5	Analyze how the program's context is similar to or different form contexts where the program might be adopted.	1	
6	Report those contextual influences that appeared to significantly influence the program and that might be of interest to potential adopters.	1	
7	Estimate effects of context on program outcomes.	1	
8	Identify and describe any critical competitors to this program that functioned at the same time and in the program's environment.	1	
9	Describe how people in the program's general area perceived the program's existence, importance and quality.	0.67	
A3 Describe purposes and procedures			
1	At the evaluation's outset, record the client's purposes for the indicator construction.	1	
2	Monitor and describe stakeholders' intended uses of indicator findings.	1	
3	Monitor and describe how indicator construction's purposes stay the same or change over time.	1	

No	Content	IOC	Other
4	Identify and assess points of agreement and disagreement among stakeholders regarding the indicator construction's purposes.	1	
5	Record the actual indicator construction procedures as implemented.	1	
6	When interpreting findings, take into account the different stakeholders' intended uses of the indicator construction.	1	
7	When interpret findings, take into account the extent to which the intended procedures were effectively executed.	1	
8	Describe the indicator construction's purposes and procedures in the summary and full-length indicator reports.	1	
9	As feasible, engage independent evaluators to monitor and evaluate the indicator construction's purposes and procedures.	1	
A4 Defensible information sources			
1	Obtained information from a variety of sources.	1	
2	Use pertinent, previously collected information once validated.	1	
3	As appropriate employ a variety of data collection methods.	1	
4	Document and report information sources.	1	
5	Document, justify, and report the criteria and methods used to select information sources.	1	
6	For each source, define the population.	0.67	

No	Content	IOC	Other
7	For each population, as appropriate, define any employed sample.	1	
8	Document, justify and report the means used to obtain information from each source.	1	
9	Include data collection instruments in a technical appendix to the indicator report.	1	
10	Document and report any biasing features in obtained information.	1	
A5 Valid information			
1	Focus the process on key questions.	1	
2	As appropriate, employ multiple measures to address each question.	0.67	
3	Provide a detailed description of the constructs and behaviors about which information will be acquired.	1	
4	Assess and report what type of information each employed procedure acquires.	1	
5	Document and report the data collection conditions and process.	1	
6	Document how information from each procedure was scored, analyzed, and interpreted.	1	
7	Report and justify inferences singly and in combination.	1	

No	Content	IOC	Other
8	Assess and report the comprehensiveness of the information provided by the procedures as a set in relation to the information needed to answer the set to process indicator construction's questions.	1	
9	Establish meaningful categories of information by identifying regular information collected using assessment procedures.	1	
A6 Reliable information			
1	Identify and justify extent of reliability claimed.	1	
2	For each employed data collection device, specify the unit of analysis.	1	
3	As feasible, choose measuring devices that in the past have shown acceptable levels of reliability for their intended uses.	1	
4	In reporting reliability of an instrument, assess and report the factors influenced the reliability, including the characteristics of participants, the data collection conditions and the evaluators' biases.	1	
5	Check and report the consistency of scoring, categorization and coding.	1	
6	Pilot test new instruments in order to identify and control sources of error.	1	
7	As appropriate, engage and check the consistency between multiple experts.	1	

No	Content	IOC	Other
8	Acknowledge reliability problems in the final report.	1	
9	Estimate and report the effects of unreliability in the data on the overall judgment of the program.	1	
A 7 Systematic information			
1	Establish protocols for quality control of the indicator construction information.	1	
2	Train the evaluation staff to adhere to the data protocols.	1	
3	Systematically check the accuracy of scoring and coding.	0.67	
4	When feasible, use multiple internal and external evaluators and check the consistency of their work.	1	
5	Verify data entry.	1	
6	Proofread and verify data tables generated from computer output or other means.	1	
7	Systemize and control storage of the evaluation information.	1	
8	Have data providers verify the data they submitted.	1	
A8 Analysis of information			
1	Define boundary of information used.	1	
2	Obtain information keyed to the important indicator construction questions.	1	
3	For each procedure specify how its key assumptions being met.	1	
4	Report limitations of each analytic procedure, including failure to meet assumptions.	1	

No	Content	IOC	Other
5	Employ multiple analytic procedures to check on consistency and reliability of findings.	1	
6	Examine variability as well as central tendencies.	1	
7	Identify and examine outliers and verify their correctness.	1	
8	Assess statistical significance and practical significance.	1	
9	Derive conclusions and recommendations and demonstrate their meaningfulness.	1	
10	Report limitations of the referenced information, analyses, and inferences.	1	
A 9 Justified conclusion			
1	Focus conclusions directly on the indicator construction questions	1	
2	Accurately reflect the indicator construction procedures and findings.	1	
3	Limit conclusions to the applicable time periods, contexts, purposes, and activities.	1	
4	Cite the information that supports each conclusion.	1	
5	Identify and report the program's side effects.	1	
6	Report plausible alternative explanations of the findings.	1	
7	Obtain and address the results of a prerelease review of the draft indicator report.	1	

No	Content	IOC	Other
8	Report the indicator construction's limitation.	1	
A10 Impartial reporting			
1	Engage the client to determine steps to ensure fair, impartial reports.	1	
2	Establish appropriate editorial authority.	1	
3	Determine right-to-know audiences.	1	
4	Establish and follow appropriate plans for releasing findings to all right-to-know audiences.	1	
5	Safeguard reports from deliberate or inadvertent distortions.	1	
6	Report perspectives of all stakeholder groups.	1	
7	Report alternative plausible conclusions.	1	
8	Obtain outside audits of reports.	0.67	
9	Describe steps taken to control bias.	1	
10	Participate in public presentations of the findings to help guard against and correct distortions by other interested parties.	1	
A11 Meta-evaluation			
1	Designate or define the standards to be used in judging the indicator construction.	1	
2	Record the full range of information needed to judge the indicator construction against the stipulated standards.	0.67	
3	As feasible, contract for an independent meta-evaluation.	1	

No	Content	IOC	Other
4	Determine and record which audiences will receive the indicator report.	1	
5	Evaluate indicator construction's involvement communication of findings to stakeholders against the relevant standard.	1	
6	Maintain a record of all meta-evaluation steps, information, and analyses.	1	

APPENDIX C

Name List of Interview Expert and Focus Group Discussion Member

Expert of Interview:

1.	Sunho Kuch	school director
2.	Sukunthy Pum	vice director
3.	Bunthorn Ke	vice director
4.	Sokha Khun	vice director
5.	Chantheng Meak	vice director

Focus Group Discussion Member, there are 5 groups:

Teacher Group 1 (general education)

1. Pun Phorn
2. Lim eng Peang
3. Kolen Sean
4. Rady Tim
5. Chhorn Eng
6. Supornnak Bruk
7. Chorvorn Pring

Teacher Group 2 (vocational education)

1. Phearum Chan
2. Hok Horng
3. Vann Phorn
4. Pol Tong
5. Sok Seng
6. Sokhem Um
7. Sokden Eang
8. Rithy Chhiv

Parent Group:

1. Then Than
2. Bun An Sim
3. Nean Rath
4. Yorng Heav

Name List of Interview Expert and Focus Group Discussion Member (continued)

5. Norm Sim

6. Chhean Yin

Student Group 1 (general education)

1. Chhengkang Kung

2. Chansovanda Mum

3. Sophy Yorn

4. Malen Samrith

5. Mara Our

6. Sophoin Thy

7. Laykin Chheng

8. Mengchhoir Leng

Student Group 2 (vocational education)

1. Bunteng Tem

2. Savang Sun

3. Siden Doung

4. Rin Brak

5. Savath Leoung

6. Bunthen Chlen

7. Bunnoir San

8. Savouen Tabb

APPENDIX D

RESEARCH INSTRUMENTS

Structured interview form

Concepts to interview school director

1. In term of educational quality assurance, does this school have standards, indicators and examined criteria to utilize in quality evaluation?

2. Have school ever obtained external quality evaluation?

3. If school has obtained external quality evaluation, how the external evaluator evaluates this school?

4. Do they have standard, indicators and examined criteria to judge school performance?

5. If school has never obtained external quality evaluation, how school evaluates itself?

6. Does it have standard, indicators, and examined criteria to judge input, process, and output of its students?

7. Does school meet various issues during evaluation the quality of its students?

8. Others………….?

Concept to interview academicians

1. Are there any standards, indicators and examined criteria used in educational quality assurance?

2. Are there any indicators and examined criteria used in educational quality assurance and are they in harmony with this school context or not?

3. If they are not in harmony with this school context. And why they are not in harmony?

4. Were there any evaluations on this school before? If there were any evaluations before what problems had been faced?

5. If there are external evaluators evaluate this kind of school what information should they know about this kind of school?

6. Recommendation………….

Concepts of interviewing educational standards academician

1. Were there any evaluations on this school before? If there were any evaluations before what problems which school has faced?

2. This kind of school is in difference context of other schools. Thus, if school set up indicators and examined criteria to evaluate the school quality what standards and indicators should school set up? And what criteria and examined concepts should school set up?

3. As you see the process and development of standards and indicators in Thailand. After the last adjustment of standards and indicators, How many standards and indicators can be appropriately implement in this school context and how can we implement them?

4. Recommendation………

APPENDIX E

QUESTIONNAIRES

Indicators of internal quality assurance for general education

To school director, vice directors, teachers

I am, Bunhe Harth, a master student in the major of educational research and psychology, faculty of education, Chulalongkorn University. I am doing thesis, indicator development of internal quality assurance of the school providing both general and vocational education systems: a case study of Kampong Chheuteal High School. My advisor, Nuttaporn Lawthong, selected this school to be the sample. Thus, I would like to ask all of you to respond to this questionnaire.

All your responses were very useful for my thesis. All respondents were assured that their individual responses would be anonymous. The result of questionnaire respondent will not negatively effect on respondents. Therefore, please you answer the questionnaire follow your opinion and empirical data.

I hopefully obtain your help. I deeply thank to all your help.

Researcher

Bunhe Harth

Notice: This questionnaire is divided into two parts.

First part: Background information of respondents

Second part: Indicators of internal quality assurance of the school providing both general and vocational education systems.

First part: Background information of respondents

Please tick ☑ in the box about your information

    1. Sex   ☐ male   ☐ female

    2. Age   …….years old

    3. Position   ☐ director   ☐ vice director   ☐ teacher

    4. Work experience   ……………years

    5. Last certificate   ☐ associate ☐ bachelor ☐ master   ☐ Ph.D.

    6. Teaching expertise   ……………………

    7. Number of your own learners …………………..

Second part: indicators of internal quality assurance of the school providing both general and vocational education systems.

Please tick √ in the column following your opinion

The quality of indicators is ranged between 1- 5

5 means that the respondent highly satisfies with indicator or acceptable criteria or evaluation criteria.

4 means that the respondent satisfies with indicator or acceptable criteria or evaluation criteria.

3 means that the respondent moderately satisfies with indicator or acceptable criteria or evaluation criteria.

2 means that the respondent doesn't satisfy with indicator or acceptable criteria or evaluation criteria.

1 means that the respondent doesn't strictly satisfy with indicator or acceptable criteria or evaluation criteria.

Indicators for Internal Quality Assurance

Indicator and acceptable criteria	Satisfaction				
	1	2	3	4	5
Basic Indicator Group					
1. Percentage of learners who complete their class with institutional standard.					
2. Percentage of learners who pass national examination.					
3. Percentage of drop-out learners as compared to the early year enrollment.					
4. Learners who have social awareness, value, and participate in conserving and developing environment.					
5. Percentage of learner-centered approach utilization in training learners.					
6. Learners who have weight, height, physical competency and know how to take care themselves.					
7. Learners who have experiences in art, music, educational physic, and entertainment.					
8. Learners who like reading and searching knowledge from many sources.					
9. Learners who can use technology in learning and demonstrating achievement.					
10. Learners, who can set goal, have expectation and can solve the problem by using cause-effective principle.					

Indicator and acceptable criteria	Satisfaction				
	1	2	3	4	5
11. Learners who demonstrate thinking method and problem-solving method by using appropriate language.					
12. Percentage of teachers who measure and evaluate learners' development by applying various methods.					
13. The efficiency of administrative management that follows the duty of school director.					
14. The efficiency of school committee of general education that is concurrent with their position.					
15. School climate and environment that are satisfied by learners and audiences.					
16. Instructional management and development those are sustainable.					
17. Educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.					
18. Educational staffs who apply evaluation result for educational quality development planning annually.					
19. Percentage of graduate who is employed or can establish their own business within one year.					
20. Number of qualified subjects which are concurrent with the requirement of the labor market.					
21. Number of times and kinds of activities that promote academy, morality, ethics and good occupational value.					

Indicator and acceptable criteria	Satisfaction				
	1	2	3	4	5
22. Number of times and kinds of activities that promote environmental conservation, custom and tradition.					
23. Number of projects or activities that share knowledge and experience to learner.					
24. Number of other units or organizations which cooperate with the institution.					
25. Permanent teacher proportion that qualified in occupation for learners each subject.					
26. Infrastructure management that is appropriate to the norm and suitable to learners.					
27. Percentage of learner which is capable of applying knowledge and skills in solving problem systematically.					
28. Risk management					
29. Number of educational staff that has been refreshed based on their duties.					
Identity Indicator Group					
30. Development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.					
31. Development result that reaches focus and strength which reflect as institutional identity.					
32. School director, teachers, educational staff, community and external organization who participate in planning, setting goal and					

Indicator and acceptable criteria	Satisfaction				
	1	2	3	4	5
strategy in harmony with philosophy, vision, mission of the institution.					
33. School director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.					
34. Percentage of teacher who works with professional ethics.					
Promoted Indicator Group					
35. Learners and stakeholders who have widely opportunities to attain class or special project.					
36. The institution that processes special project every year.					
37. There is an annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.					
38. Institution processes all kinds of work by using quality assurance cycle (PDCA).					
39. Result of learners' quality development.					
40. Result of teachers' quality development.					
41. Institution development that is learning-resource.					

APPENDIX F

Indicators of internal quality assurance of the school providing both general and vocational education systems

Basic Indicator Group

Indicator 1: Percentage of learners who complete their class with institutional standard.

Measurement: percentage

Score   : percentage

Formula   : percentage of learners finished class

$$= \frac{number\ of\ learners\ finished\ class}{number\ of\ all\ learners} x100$$

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	score
.	80 % of learners who complete their class with institutional standard.	1
.	85% of learners who complete their class with institutional standard.	2
.	90% of learners who complete their class with institutional standard.	3
.	95% of learners who complete their class with institutional standard.	4
.	100% of learners who complete their class with institutional standard.	5

Indicator 2: Percentage of learner who pass national examination.

Measurement: percentage

Score   : percentage

Formula   : percentage of learner passes the national test

$$= \frac{number\ of\ learners\ passed\ national\ test}{number\ of\ all\ learners} x100$$

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	score
.	50% of learners who pass national examination.	1
.	60% of learners who pass national examination.	2
.	70% of who pass national examination.	3
.	80% of who pass national examination.	4
.	90% of who pass national examination.	5

Indicator 3: Percentage of drop-out learners as compared to the early year enrollment.

Measurement: numeration

Score : percentage

Formula : percentage of drop-out learner $= \frac{number\ of\ drop-out\ learner}{number\ of\ all\ learner} x100$

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	score
.	20 % of learners drop-out school as compared to the early year enrollment.	1
.	15 % of learners drop-out school as compared to the early year enrollment.	2
.	10 % of learners drop-out school as compared to the early year enrollment.	3

N	Indicator	score
.	5 % of learners drop-out school as compared to the early year enrollment.	4
.	0 % of learners drop-out school as compared to the early year enrollment.	5

Indicator 4: Learners who have social awareness, value, and they participate in conserving and developing environment.

Measurement: percentage

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% of learners who have social awareness, value, and they participate in conserving and developing environment.	1
.	80% of learners who have social awareness, value, and they participate in conserving and developing environment.	2
.	85% of learners who have social awareness, value, and they participate in conserving and developing environment.	3
.	90% of learners who have social awareness, value, and they participate in conserving and developing environment.	4
.	95% of learners who have social awareness, value, and they participate in conserving and developing environment.	5

Indicator 5: Percentage of learners-centered utilization in training Learners.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	score
.	50% of learners-centered approach used in training learners.	1
.	60% of learners-centered approach used in training learners.	2
.	70% of learners-centered approach used in training learners.	3
.	80% of learners-centered approach used in training learners.	4
.	90% of learners-centered approach used in training learners.	5

Indicator 6: Learners who have weight, height, physical competency and know how to take care themselves.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	score
.	75% of learners who have weight, height, physical competency and know how to take care themselves.	1
.	80% of learners who have weight, height, physical competency and know how to take care themselves.	2

N	Indicator	score
.	85% of learners who have weight, height, physical competency and know how to take care themselves.	3
.	90% of learners who have weight, height, physical competency and know how to take care themselves.	4
.	95% of learners who have weight, height, physical competency and know how to take care themselves.	5

Indicator 7: Learners who have experience from participating in art, music, physical education, and entertainment.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	Score
.	50% of learners who have experience from participating in art, music, physical education, and entertainment.	1
.	60% of learners who have experience from participating in art, music, physical education, and entertainment.	2
.	70% of learners who have experience from participating in art, music, physical education, and entertainment.	3
.	80% of learners who have experience from participating in art, music, physical education, and entertainment.	4
.	90% of learners who have experience from participating in art, music, physical education, and entertainment.	5

Indicator 8: Learners who like reading, searching knowledge from many sources.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	Score
.	50% of learners like to read, search knowledge from many sources.	1
.	60% of learners like to read, search knowledge from many sources.	2
.	70% of learners like to read, search knowledge from many sources.	3
.	80% of learners like to read, search knowledge from many sources.	4
.	90% of learners like to read, search knowledge from many sources.	5

Indicator 9: Learners who can use technology in learning and demonstrating achievement.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	Score
.	50% of learners who can use technology in learning and demonstrating achievement.	1
.	60% of learners who can use technology in learning and demonstrating achievement.	2

N	Indicator	Score
.	70% of learners who can use technology in learning and demonstrating achievement.	3
.	80% of learners who can use technology in learning and demonstrating achievement.	4
.	90% of learners who can use technology in learning and demonstrating achievement.	5

Indicator 10: Learners who can set the goal, have expectation and can solve the problem by using cause-effective principle.

      Measurement: numeration

      Score   : percentage

      Formula   : numeration

      Criteria for score assessment of the indicator

      The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	Score
.	50% of learners who can set the goal, have expectation and can solve the problem by using cause-effective principle.	1
.	60% of learners who can set the goal, have expectation and can solve the problem by using cause-effective principle.	2
.	70% of learners who can set the goal, have expectation and can solve the problem by using cause-effective principle.	3
.	80% of learners who can set the goal, have expectation and can solve the problem by using cause-effective principle.	4
.	90% of learners who can set the goal, have expectation and can solve the problem by using cause-effective principle.	5

Indicator 11: Learners who demonstrate thinking method and problem-solving method by using appropriate language.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% of learners who demonstrate thinking method and problem-solving method by using appropriate language.	1
.	80% of learners who demonstrate thinking method and problem-solving method by using appropriate language.	2
.	85% of learners who demonstrate thinking method and problem-solving method by using appropriate language.	3
.	90% of learners who demonstrate thinking method and problem-solving method by using appropriate language.	4
.	95% of learners who demonstrate thinking method and problem-solving method by using appropriate language.	5

Indicator 12: Percentage of teachers who measure and evaluate learners' development by applying various methods.

Measurement: percentage

Score   : percentage

Formula   : percentage

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	Score
.	50% of teachers who measure and evaluate learners' development by applying various methods.	1
.	60% of teachers who measure and evaluate learners' development by applying various methods.	2
.	70% of teachers who measure and evaluate learners' development by applying various methods.	3
.	80% of teachers who measure and evaluate learners' development by applying various methods.	4
.	90% of teachers who measure and evaluate learners' development by applying various methods.	5

Indicator 13: The efficiency of administrative management that follows the duty of school director.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	Score
.	50 % of efficiency of administration management follows the position of school director.	1

N	Indicator	Score
.	60 % of efficiency of administration management follows the position of school director.	2
.	70 % of efficiency of administration management follows the position of school director.	3
.	80 % of efficiency of administration management follows the position of school director.	4
.	90 % of efficiency of administration management follows the position of school director.	5

Indicator 14: The efficiency of school committee of general education that is concurrent with their position.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75 % of efficiency of school committee of general education that is concurrent with their position.	1
.	80 % of efficiency of school committee of general education that is concurrent with their position.	2
.	85 % of efficiency of school committee of general education that is concurrent with their position.	3

N	Indicator	Score
.	90 % of efficiency of school committee of general education that is concurrent with their position.	4
.	95 % of efficiency of school committee of general education that is concurrent with their position.	5

Indicator 15: School climate and environment that are satisfied by learners and audiences.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% of school climate and environment that are satisfied by learners and audiences.	1
.	80% of school climate and environment that are satisfied by learners and audiences.	2
.	85% of school climate and environment that are satisfied by learners and audiences.	3
.	90% of school climate and environment that are satisfied by learners and audiences.	4
.	95% of school climate and environment that are satisfied by learners and audiences.	5

Indicator 16: Instructional management and development those are sustainable.

Measurement: numeration

Score : percentage

Formula : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	Score
.	50% of instructional management and development those are sustainable.	1
.	60% of instructional management and development those are sustainable.	2
.	70% of instruction management and development are sustainable and continuous.	3
.	80% of instructional management and development those are sustainable.	4
.	90% of instructional management and development those are sustainable.	5

Indicator 17: Educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.

Measurement: numeration

Score : percentage

Formula : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% of educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.	1
.	80% of educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.	2
.	85% of educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.	3
.	90% of educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.	4
.	95% of educational staffs who control, follow up and evaluate internal quality follow the educational standard of the institution.	5

Indicator 18: Educational staffs who apply evaluation result for educational quality development planning annually.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% of educational staffs who apply evaluation result for educational quality development planning annually.	1
.	80% of educational staffs who apply evaluation result for educational quality development planning annually.	2

N	Indicator	Score
.	85% of educational staffs who apply evaluation result for educational quality development planning annually.	3
.	90% of educational staffs who apply evaluation result for educational quality development planning annually.	4
.	95% of educational staffs who apply evaluation result for educational quality development planning annually.	5

Indicator 19: Percentage of graduates is employed or can establish their own business within one year.

Measurement: percentage

Score   : percentage

Formula   :

$$\text{percentage of graduates is employed} = \frac{\text{number of graduate is employed}}{\text{number of all graduates}} \times 100$$

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	score
.	50% of graduates are employed or can establish their own business within one year.	1
.	60% of graduates are employed or can establish their own business within one year.	2
.	70% of graduates are employed or can establish their own business within one year.	3
.	80% of graduates are employed or can establish their own business within one year.	4

N	Indicator	score
.	90% of graduates are employed or can establish their own business within one year.	5

Indicator 20: Number of qualified subjects which are concurrent with labor market requirement.

Measurement: numeration

Score : numeration

Formula : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	score
.	There are at least 3 of qualified subjects which are concurrent with labor market required.	1
.	There are at least 4 of qualified subjects which are concurrent with labor market required.	2
.	There are at least 5 of qualified subjects which are concurrent with labor market required.	3
.	There are at least 6 of qualified subjects which are concurrent with labor market required.	4
.	There are at least 7 of qualified subjects which are concurrent with labor market required.	5

Indicator 21: Number of times and kinds of activities that promote academy, morality, ethics and good occupational value.

Measurement: numeration

Score   : numeration

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- 1 per 1 point as detailed in the table.

N	Indicator	score
.	There are 3 of times and kinds of activities that promote academy, morality, ethics and good occupational value.	1
.	There are 4 of times and kinds of activities that promote academy, morality, ethics and good occupational value	2
.	There are 5 of times and kinds of activities that promote academy, morality, ethics and good occupational value	3
.	There are 6 of times and kinds of activities that promote academy, morality, ethics and good occupational value	4
.	There are 7 of times and kinds of activities that promote academy, morality, ethics and good occupational value.	5

Indicator 22: Number of times and kinds of activities that promote environmental conservation, custom and tradition.

Measurement: numeration

Score   : numeration

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- 1 per 1 point as detailed in the table.

N	Indicator	score
.	There are 3 of times and kinds of activities that promote environmental conservation, custom and tradition.	1
.	There are 4 of times and kinds of activities that promote environmental conservation, custom and tradition.	2
.	There are 5 of times and kinds of activities that promote environmental conservation, custom and tradition.	3
.	There are 6 of times and kinds of activities that promote environmental conservation, custom and tradition.	4
.	There are 7 of times and kinds of activities that promote environmental conservation, custom and tradition.	5

Indicator 23: Number of projects and activities that shared knowledge and experience to learners.

Measurement: numeration

Score   : numeration

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- 1 per 1 point as detailed in the table.

N	Indicator	score
.	There are 3 projects or activities that shared knowledge and experience to learners.	1
.	There are 4 projects or activities that shared knowledge and experience to learners.	2

N	Indicator	score
.	There are 5 projects or activities that shared knowledge and experience to learners.	3
.	There are 6 projects or activities that shared knowledge and experience to learners.	4
.	There are 7 projects or activities that shared knowledge and experience to learners.	5

Indicator 24: Number of other units or organizations that cooperate with the institution.

Measurement: numeration

Score : numeration

Formula : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- 1 per 1 point as detailed in the table.

N	Indicator	score
.	There are 3 units or organizations that cooperate with the institution.	1
.	There are 4 units or organizations that cooperate with the institution.	2
.	There are 5 units or organizations that cooperate with the institution.	3
.	There are 6 units or organizations that cooperate with the institution.	4
.	There are 7 units or organizations that cooperate with the institution.	5

Indicator 25: Permanent teacher proportion qualified in occupation for learners each subject.

Measurement: proportion

Score : percentage

Formula : proportion between teacher and learners in each subject

$$= 1 : \frac{\text{number of learners in each subject}}{\text{number of teachers in each subject}}$$

Criteria for score assessment of the indicator

The adjustment score to +/- 5 per 1 point as detailed in the table.

N	Indicator	score
.	Proportion between teacher and learners in each subject 1:40	1
.	Proportion between teacher and learners in each subject 1:35	2
.	Proportion between teacher and learners in each subject 1:30	3
.	Proportion between teacher and learners in each subject 1:25	4
.	Proportion between teacher and learners in each subject 1:20	5

Indicator 26: Infrastructure management is appropriate to the norm and suitable to learners.

Measurement: numeration

Score : percentage

Formula : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	score
.	75 % of infrastructure management is appropriate to the norm and suitable to learners.	1
.	80 % of infrastructure management is appropriate to the norm and suitable to learners.	2

N	Indicator	score
.	85 % of infrastructure management is appropriate to the norm and suitable to learners.	3
.	90 % of infrastructure management is appropriate to the norm and suitable to learners.	4
.	95 % of infrastructure management is appropriate to the norm and suitable to learners.	5

Indicator 27: Percentage of learner which is capable of applying knowledge and skills in solving problem systematically.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	score
.	75 % of learners which are capable to apply knowledge and skill in solving problem systematically.	1
.	80 % of learners which are capable to apply knowledge and skill in solving problem systematically.	2
.	85 % of learners which are capable to apply knowledge and skill in solving problem systematically.	3
.	90 % of learners which are capable to apply knowledge and skill in solving problem systematically.	4
.	95 % of learners which are capable to apply knowledge and skill in solving problem systematically.	5

Indicator 28: Risk management.

Measurement: numeration

Score   : numeration

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- 1 per 1 point as detailed in the table.

N	Indicator	score
.	4 times risk management.	1
.	3 times risk management.	2
.	2 times risk management.	3
.	1 time risk management.	4
.	0 time risk management.	5

Indicator 29: Number of educational staff that has been refreshed based on their duties.

Measurement: numeration

Score   : percentage

Formula   : percentages of educational staff have been developed

$$= \frac{number\ of\ educational\ staff}{number\ of\ all\ educational\ staff} \times 100$$

Criteria for score assessment of the indicator

The adjustment score to +/- 5 per 1 point as detailed in the table.

N	Indicator	score
.	5 % of educational staff that has been refreshed based on their duties.	1
.	10 % of educational staff that has been refreshed based on their duties.	2

N	Indicator	score
.	15 % of educational staff that has been refreshed based on their duties.	3
.	20 % of educational staff that has been refreshed based on their duties.	4
.	25 % of educational staff that has been refreshed based on their duties.	5

Identity Indicator Group

Indicator 30: Development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.	1
.	80% of development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.	2
.	85% of development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.	3
.	90% of development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.	4
.	95% of development result that reaches the goal as philosophy, vision, mission, and objectives of institutional construction.	5

Indicator 31: Development result that reaches focus and strength which reflect as institutional identity.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% of development result that reaches focus and strength which reflect as institutional identity.	1
.	80% of development result that reaches focus and strength which reflect as institutional identity.	2
.	85% of development result that reaches focus and strength which reflect as institutional identity.	3
.	90% of development result that reaches focus and strength which reflect as institutional identity.	4
.	95% of development result that reaches focus and strength which reflect as institutional identity.	5

Indicator 32: School director, teacher, educational staff, community and external organization participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% of school director, teacher, educational staff, community and external organization participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.	1
.	80% of school director, teacher, educational staff, community and external organization participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.	2
.	85% of school director, teacher, educational staff, community and external organization participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.	3
.	90% of school director, teacher, educational staff, community and external organization participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.	4
.	95% of school director, teacher, educational staff, community and external organization participate in planning, setting goal and strategy in harmony with philosophy, vision, mission of the institution.	5

Indicator 33: School director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% of school director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.	1
.	80% of school director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.	2
.	85% of school director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.	3
.	90% of school director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.	4
.	95% school director, teachers, educational staff, community and external organization who participate in setting focus, strength, and institutional identity.	5

Indicator 34: Percentage of teacher who works with professional ethics.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% of teacher who work with professional ethics.	1
.	80% of teacher who work with professional ethics.	2
.	85% of teacher who work with professional ethics.	3
.	90% of teacher who work with professional ethics.	4
.	95% teacher who work with professional ethics.	5

Promoted Scale Indicator Group

Indicator 35: Learners and stakeholders who have widely opportunities to attain class or special project.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	75% of learners and stakeholders who have widely opportunities to attain class or special project.	1
.	80% of learners and stakeholders who have widely opportunities to attain class or special project.	2
.	85% of learners and stakeholders who have widely opportunities to attain class or special project.	3
.	90% of learners and stakeholders who have widely opportunities to attain class or special project.	4
.	95% of learners and stakeholders who have widely opportunities to attain class or special project.	5

Indicator 36: The institution that process special project every year.

Measurement: numeration

Score : percentage

Formula : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	The institution that process 1 special project every year.	1
.	The institution that process 2 special projects every year.	2
.	The institution that process 3 special projects every year.	3
.	The institution that process 4 special projects every year.	4
.	The institution that process 5 special projects every year.	5

Indicator 37: There is an annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.

Measurement: numeration

Score : percentage

Formula : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	There is 75% of annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.	1

N	Indicator	Score
.	There is 80% of annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.	2
.	There is 85% of annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.	3
.	There is 90% of annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.	4
.	There is 95% of annual performance plan lead to adjust and develop institution to reach high standard institution by using evaluation result.	5

Indicator 38: Institution processes all kinds of work by using quality assurance cycle PDCA.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	Institution processes 75% of all kind of work by using quality assurance cycle PDCA.	1
.	Institution processes 80% of all kind of work by using quality assurance cycle PDCA.	2
.	Institution processes 85% of all kind of work by using quality assurance cycle PDCA.	3

N	Indicator	Score
.	Institution processes 90% of all kind of work by using quality assurance cycle PDCA.	4
.	Institution processes 95% of all kind of work by using quality assurance cycle PDCA.	5

Indicator 39: Result of learners' quality development.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	Result of learners' quality development increase 75%.	1
.	Result of learners' quality development increase 80%.	2
.	Result of learners' quality development increase 85%.	3
.	Result of learners' quality development increase 90%.	4
.	Result of learners' quality development increase 95%.	5

Indicator 40: Result of teachers' quality development.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .05 per 1 point as detailed in the table.

N	Indicator	Score
.	Result of teachers' quality development increase 5%.	1
.	Result of teachers' quality development increase 10%.	2
.	Result of teachers' quality development increase 15%.	3
.	Result of teachers' quality development increase 20%.	4
.	Result of teachers' quality development increase 25%.	5

Indicator 41: Institution development that is learning-resource.

Measurement: numeration

Score   : percentage

Formula   : numeration

Criteria for score assessment of the indicator

The adjustment score to +/- .1 per 1 point as detailed in the table.

N	Indicator	Score
.	Institution development that is learning-resource about 50%.	1
.	Institution development that is learning-resource about 60%.	2
.	Institution development that is learning-resource about 70%.	3
.	Institution development that is learning-resource about 80%.	4
.	Institution development that is learning-resource about 90%.	5

BIOGRAPHY

Mr. Bunhe Harth was born on the 1st January 1985 in Kampong Thom province, Cambodia. In 2005, He graduated an associate's degree of physics and chemistry from Kampong Cham Regional Teacher Training Center. In 2009, he graduated his bachelor's degree of physic from Western University. In 2010, He continued his master's degree in Educational Measurement and Evaluation, Faculty of Education, Chulalongkorn University, Thailand. He is currently teaching physic at Kampong Chheuteal High School, Kampong Thom province, Cambodia.