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STUDENTS' LEARNING OUTCOMES ASSESSMENT MODEL IN CREDIT-BASED TRAINING

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INTRODUCTION

1. Rationales for the research topic

1.1. Under the current trend of educational reform in Vietnam, people are concerned more about education quality and how to ensure it in higher education (HE). To achieve this, it is firstly necessary to carry out assessment activities in order to arrive at indexes which reflect the expected quality.

1.2. Perhaps, students are both the object in the training process and the subject in learning activity in HE. Therefore, when considered in the training process, training quality is first reflected via learning outcomes (LOs) against the objectives of training programs. However, in the current practice of students' learning outcome assessment (SLOA) exist some issues (i.e. conflicts) which should need more attention and resolutions. One of them is the question how can, via the process of credit-based training (CBT), the learning outcome assessment (LOA) activities become a useful tool which enhances the formation and development of students' competence, meeting the requirement of high quality human resources training which correspond to social need in the current context.

1.3. For those reasons, establishing a Students' Learning Outcome Assessment Model (SLOAM) is completely feasible in CBT through which the effectiveness of the training activity should be enhanced. The SLOA at HE level herein becomes one of the most critical and significant research topics.

2. Research purposes

To propose a students' competence development (SCD)-oriented SLOAM at course level in the CBT system

3. Subjects, objects and scope of research

3.1. Research subjects: the learning process in the CBT system

3.2. Research objects: the SLOA activity at course level in the CBT system

3.3. Scope of research

- *Surveyed subjects:* Full-time students in CBT
- *Surveyed samples:* 100 faculty members in employment and 500 students from 6 universities running CBT programs. Some of them belong to Vietnam National University (VNU) in Hochiminh City.
- *Experimental sample (not having any control counterpart):* the experimental was carried out via a course in the CBT program at Hochiminh City University of Social Sciences and Humanities (HCMC USSH).
- *Time and location for research:* January 2010 to December 2012 in Hochiminh City

4. Hypotheses

The reality of SLOA at course level in Vietnam's credit-based training system still harbors limitations in terms of assessment objectives and contents; therefore, if the SLOAM in which the assessment activity is integrated into the learning and teaching processes on the basis of SDC-oriented tasks is applied, the effectiveness of SLOA in particular and higher education quality in general will be promoted.

5. Research tasks

- Studying the basic reasoning on SLOA in the CBT system;

- Studying the reality of SLOA activity in the CBT system at some universities and analyzing causes of the reality;

- Proposing the SDC-oriented SLOAM at course level in the CBT system;

- Appraising the feasibility of the model by consulting with experts and applying this model as an experiment in the course *General Principles of Management* which is offered to students at Faculty of Education, HCMC USSH, VNU.

6. Research methods

In this study, the system-synchronicity and structure-function approaches were employed to inquire theory and practices.

Under these approaches, groups of research methods were categorized as follows: document research, practice research; experiment research (not having any control counterparts), and statistical research.

In addition, in the study there was a combination of non-formal interviews with faculty members and students in order to clarify some issues related to the outcomes of the surveys and the experiment.

7. Thesis approaches and viewpoints

7.1. Approach to the research topic

The study was based on the following approaches:

- The system-synchronicity based approach to teaching activity in HE

- The function-based to the LOA activity and

- Practice-based approach to the CBT system

7.2. Thesis viewpoints

- The quality of any training program must first of all be reflected, controlled, and assessed via students' LOs at course level;

- LOA should be considered as one of the most typically integrated and frequently as well as flexibly implemented teaching-learning tool in task-based teaching processes at HE level;
- The SLOA activity in CBT will achieve greater effectiveness when the students' competence development oriented assessment model is applied.

8. Significance of the study

- *In terms of theory*: the study presented the reasoning and clearly defined the theoretical foundations on the SCD-oriented SLOAM in CBT as well as its natures, characteristics, mechanism and resolutions to applying this model in teaching and learning processes.

- *In terms of practice*: The study confirmed the effectiveness of the resolutions to applying this model and its feasibility in CBT.

9. Structure of the thesis report

Besides the opening part, conclusions and recommendations, the list of references and appendixes, the thesis report consists of 3 chapters. Chapter 1: Theoretical foundations on the SLOAM in CBT; Chapter 2: The practice of SLOA at course level in the current CBT system; and, Chapter 3: Proposing and appraising the feasibility of the SCD-oriented SLOAM in CBT.

CHAPTER 1
THEORETICAL FOUNDATIONS ON THE STUDENTS' LEARNING OUTCOMES ASSESSMENT MODEL IN CREDIT- BASED TRAINING

1.1. Research history of the issue

1.1.1. Theoretical and practical studies on LOA at HE level

These studies often originate from abroad, most of which concentrate on the clarifying the conceptualization of assessment in general (Salvia, J., 1998), aspects related to the nature, goals, criteria, and tools in LOA (Badders, W., 2000; Sadler, D. R., 1996) and especially, those issues in SLOA (Cartwright, R., 2009) such as the relationship between principles, policy, and practice of LOA in education in general and HE in particular (Harlen, W., 1999; Paloma, C. A., 1999).

Besides, studies that concentrate on LOA in classroom (i.e. classroom assessment) were practical and applicable, which would then greatly helped teachers in teaching and SLOA [96] (Cross, K.P., 1998). The findings from these studies prove that LOA is no different from an element in teaching activity, which holds a link with all processes going on in the classroom. At the same time, LOA is concerned not only with administering multiple-choice tests, grading, and categorizing students' performance based on set criteria but also with organizing, constructing, and implementing teaching and training

strategies. Furthermore, in studying LOA, the viewpoints on and approaches to LOA also go to the fore. Some examples are the course-based approach (Martha L. A., 2001); student-based approach (Stiggins, R. J., 1996); program-based approach (Smith, S. R., 2003), etc.

In Vietnam, studies on LOA often concentrate on issues which are typically associated with LOA tools and techniques, such as educational assessment and measurement (Lam Quang Thiep, 2009), students' educational achievements (Duong Thieu Tong, 2005), objective and criteria-based multiple-choice tests (Duong Thieu Tong, 1995), and the like.

1.1.2. Studies on theory and practice in LOA in CBT

It is interesting to find that there have been few studies from abroad that concentrate on LOA in CBT at HE level. Accurately, those concerned with LOA in HE rarely differentiate CBT and non-CBT. In the current context of changing to the CBT system in Vietnam, those studies on teaching, learning, and LOA in CBT have received more and more research interest. Most of the studies on these issues are intended to accentuate the nature of CBT (Le Thac Can, 1987), requirements in organizing learning activities (Le Thac Can, 1988), reforms in testing modes and LOA in CBT (Can Thi Thanh Huong, 2008; Nguyen Mai Huong, 2009), etc.

1.1.3. Studies on theory and practice in LOA in CBT at HE level

One of the studies which hold a close link with the thesis topic is the SLOAM at HE level by the group of authors Joughin, G. and Macdonald, R. (2003). These authors propose an assessment model of four main levels and the linking factors in each level were recommended as an approach and clarification of critical issues so as to help enhance the quality of assessment practices in HE.

Apart from that, research in the SLOAM (outcome) at a specific institution was the interest of Crystal, B. et al (2008). This group of authors postulate that it is ideal for this model to be frequently implemented in the integration with other assessing modes which may be direct or indirect and involve grading/classifications or no grading/classifications at all based on electronic portfolios.

Towards the construction of SCD-oriented SLOAM, there are some noticeable researchers such as Yorkovich, Waddell and Gerwig on analyzing the reality of the competence-based assessment system (Yorkovich, S. et al, 2007), Mueller, J. (2005) on his viewpoint on authentic assessment. According to this author, learners are required to reveal their ability to meaningfully apply the crucial knowledge and skills to implementing real-life tasks. Together with this direction, Fook, C. Y. & Sidhu, G. K. (2010) cannot be excluded as important researchers.

General comments

The findings from the above mentioned studies regarding the SLOAM at HE level have always been effectively learned and developed. Most studies on SLOA, however, mainly concentrate on technical respects, administration, applicability of SLOA to a specific program and institution. On the contrary, they have yet to present any generalizable or feasible pedagogical resolutions in order to change to a SCD-oriented SLOAM in the reform context of Vietnamese HE.

1.2. Basic theoretical issues in LOA at HE level

1.2.1. Key concepts

1.2.1.1. Learning outcomes

- *In a broad sense,* LOs are totally the expressions which reflects the internal changes in terms of cognition, competencies, social attitudes, and social behaviors which an individual has obtained via conscious and active learning. With reference to this, the learning takes place normally in life, in activities, and social relationships.

- *In a narrow sense* (and also the sense employed in this study), LOs are understood as an individual's achievements which reflect the degree to which this individual has met the learning requirements under the orientation of course objectives and contents as well as the program being offered. These outcomes are assessed on the basis of measurement and testing activities with various criteria.

1.2.1.2. Assessment (in HE teaching process)

Assessment in HE teaching is a process which is systematically carried out to determine the degree of learners' obtainments according to set educational objectives. This is a process whereby one can present his/her perspectives and predictions on students' LOs and the training quality so as to improve the teaching and learning practices.

1.2.1.3. Students' learning outcome assessment (SLOA)

SLOA can be understood as a process that takes place in HE teaching so as to define the degree of achievement learning objectives via collecting evidential information on students' LOs. Based on this, one can present his/her comments and predictions as well as make a decision about students' achievements.

The comprehensions of this concept include testing, measurement, and judgment activities, from which decisions can be made about students' achievements. In this thesis, I will use the concept in such comprehensions.

The following concepts used in the thesis can be touched upon as follows:

- **Testing***:* a process of collecting data via various modes, tools, and techniques to describe as evidence students' LOs. In this process, the real

revelations of teaching outcomes in HE will be accentuated against set objectives.

- Measurement: a process of quantifying (description of something using numbers) the degree of achieving the objectives and criteria set in students' learning. In HE teaching, measurement is understood as an activity to quantify students' LOs predicted on the collected information through testing using numbers on a specific scale.

- Judgement: as the activity of *presenting judgmental information* predicated on measurements (i.e. outcomes of measuring something on a certain scale) about students' *obtainments* and *personalities* in their learning process. Regarding how this is conducted and presents judgmental information, one can apply norm-based and criterion-based judgments. (Doan Van Dieu et al., 2004: 12).

The concept of LOA in the regard of cognition and operationalizing it as a tool oriented toward reality and experimental research. They are specifically: SLOA can be considered as a process which sometimes takes place in a simultaneous, interconnected, and integrated way into teaching processes through different modes of organization; The relationship between LOA and LO is not only a one way relation but also a dialectic one; LOA only focuses not only on specific outcomes (such as knowledge, skills, etc.) which have been obtained (past-oriented) but also on SCD orientation which helps students better meet professional requirements and real life (future oriented).

1.2.2. Roles of LOA in HE teaching

In general, SLOA in HE assumes the following roles: orientation, confirmation, motivation, reflection and adjustment, need creation and self assessment.

1.2.3. Principles of LOA in HE

We think that SLOA has to satisfy the following etiquettes: assuring the integrity of objectives and assessed contents, reliability and validity of measuring tools, equity (for the assessed), and accuracy (in the criteria for assessment).

In addition, SLOA has to maintain the perpetuity in the assessing process and the necessary flexibility in applying measuring approaches which are to contribute to the enhancement of active learning and self-assessment skills among students in their learning process.

1.2.4. Approaches to LOA in HE

An approach to LOA reflects generally the methods, techniques, and modes of assessment via particular metric tools in order to effectively touch the contents and meet the objectives set out in the assessment.

1.2.5. Procedure for LOA in HE

There are many ways of categorizing LOA. Some of these are 1). The genereal 5-step procedure (2) The concrete procedure composed of 10 steps (Dang Ba Lam, 2003). None the less, the procedures for LOA aforementioned are often employed in HE and they reflects the characteristics or serves training objectives. In this thesis, I referenced and developed LOA under the perspective of authentic assessment (AA) by Mueller (2005) into the SCD oriented LOA for the CBT purpose (to be accentuated in chapter 3).

1.2.6. General comments on the developmental steps of LOA theories in HE

Having studied theories and practices of testing programs and LOA in HE, I see their developmental steps as follows: (1) SLOA in HE are of both academic characteristics in design and flexibility (art) in implementation; (2) SLOA in HE is no different than an independent program in which there is a concentration on the combination of assessment tool design and a direction on conducting the assessing procedure. This creates positive effects on confirming students' achievements and reflecting as well as supporting students in promoting their learning; (3) SLOA in HE is like a program which enables students to refine their activity skills holds students aware of the skills to achieve in their programs.

1.3. SLOA in CBT

1.3.1. Credits, credit system, academic credit systems, and CBT

1.3.1.1. Credits

A credit is an academic management unit which reflects the amount of time, knowledge, and the degree of satisfying the requirements in a training system through learning and teaching activities (Lam Quang Thiep, 2006).

1.3.1.2. Credit system

This can be understood as a systematic description of an education program by attaching credit units with that program.

1.3.1.3. Academic credit system

The academic credit system is accepted by most academia as a training mode which is based on the credit system (Regel, O., 1995).

1.3.1.4. CBT

CBT is understood as a training mode in which there is a clear definition of amount of time and knowledge to be spent and to achieve, respectively, in order to complete a training program via quantifying the number of credit to be accumulated for each course required in that program.

1.3.2. SLOA in HE

1.3.2.1. Characteristics of CBT

CBT is bases on the philosophy all are for the learner. This is a mode of organizing and managing training, which culminates in solid effectiveness. It propels the technological process of training, a process that is highly

technological. It well adapts to the market mechanism: a training process that is compatible to the value and competition principles which creates momentum for perpetually improving training quality (i.e. the learner can select courses and teachers in charge of each course, etc.) and producing a high mobility HR. It also well satisfies new requirements in the globalization process (i.e. transfer, exchange, articulation in the credit accumulation process).

Via research, I see the following signals which reflect the typical natures of CBT. They are: 1). flexibly designed and implemented; 2). Being designed based on the benefits of the learner; 3). Delegating the power to learn independently and responsibly; 4). Serving the most and promoting lifelong learning; 5). enhancing the knowledge accumulation process and promoting self-learning; 6). Well adapting to any credit exchange and transfer mechanism; and (7) well adapting to the quality control and assessment mechanism during students' credit accumulation process.

1.3.2.2. Characteristics and requirements in SLOA in CBT

The major aspects which reflect the characteristics and requirements in SLOA in CBT are: the content of SLOA which covers both the contents to be taught and to self-study; students' LOs may be checked and assessed (confirmed) any time in the training process; the activity of LOA is both compatible with the flexible learning process and of the function to confirm students' competence required in the training program; there needs to be an effective application of diagnostic assessment to timely spot students' difficulties and to better support them in their learning.

1.4. SLOAM in CBT

1.4.1. Conceptualizing models

1.4.1.1. Models

In my opinion, a model is the object created in juxtaposition with other objects via certain aspects. It reflects our conceptualization of the structures, attributes, functions, and operating mechanism of things, phenomena, or processes in reality.

1.4.1.2. Properties of a model

(1) The isomorphism between the model and a real object, (2) The relative Relativity, (3) Ideality and feasibility, (4) Predictability, (5) Orientation

However, this is not to say that every model is composed of all the above mentioned properties. It depends on a model to reveal one or more of its typical ones.

1.4.1.3. Categorizing models

Depending on research objectives, tasks, characteristics of the study objects as well as the relationship between the real objects (things that are revealed) and the models (things that reveal the real objects), one can have various ways of categorizing models. Some of the models are, for example, (1) symbolic models, (2) axiomatic models, (3) mathematical models, and (4) theoretical models. In relation to this study, the SLOAM falls into the fourth category.

1.4.2. SLOAM in CBT

1.4.2.1. Conceptualizing the SLOAM in CBT

This is only understood as a system of conceptualizations of the SLOA activity in the practice of CBT, in which there is a reflection of the natures, structures, functions, characteristics, operating mechanism, and procedure of SLOA in compatibility with CBT.

1.4.2.2. The decisive viewpoint in studying the SLOAM in CBT

- **On competences***: Competences are a collection of actions performed by an individual in reality. They reflect the implementation of different activities according to contents, tasks, specific objects in preset conditions and circumstances which assure the effectiveness of the activity.*

- **On SCD in HE Teaching Process:** SCD is understood as the outcomes of training in HE, reflected by the maturity of the learner in terms of (1) width and dept of scientific knowledge accumulated in compatibility with the critical thinking skills, synthesis skills, and creativity, (2) ability to apply the acquired appropriate knowledge and skills to cognitive tasks, professional practices, and social relations, and (3) attitudes, self-cognition, ethical awareness, and social as well as professional personalities.

Regarding the SCD in HE teaching process and in LOA, it is necessary to take account of the groups of competences, namely, 1) General/Key competencies: basic, crucial, core competencies. These lay the foundation for every activity performed by human beings in real life and professions, 2). Special Competencies: those which are formed and develop on the prediction of general competences in to depth and specialization via forms of activities, tasks, or circumstances where they are characterized (Tran Khanh Duc, 2011).

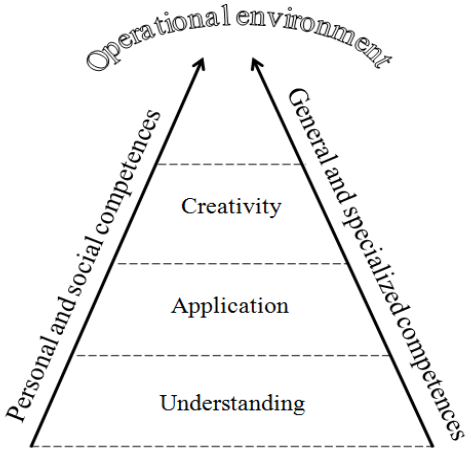


Figure 1.1: Relationship between groups of competences and degree of their development

The two groups of competencies hold a dialectic relationship in which the general competencies play a foundational role in special competencies. In turn, the development of special competencies contributes to the consolidation of the general competencies and enable the general ones to be sharper and greater in depth.

Furthermore, the scope of SCD includes individual and social competencies and the degree of these. The degree of SDC includes (1) the degree of understanding (cognition), the degree of application (actions); and the degree of creativity (values added), etc.

The ways of categorization above is only relative as the competencies themselves and their development are inter-influential. They are both result the premise and result of each other. Also, the degree of development in those competencies depends much on other elements both inside and outside the HE environment. The generality of SCD and the relationship between those competencies can be seen in figure 1.1.

- On SCD-oriented LOA in CBT:

The following elements may indicate and reflects the natures of competence-based assessment, the so-called authentic assessment (AA): (1) AA calls for the learner's revelation of abilities (on the basis of synthesizing knowledge, skills, and other qualities which belong to attitude, thinking, and emotions) to create products by significantly dealing with circumstantial problems and leaning tasks in a close link with other practical applications; (2) AA requires students to implement activities in creating products, which means checking and assessing their LO on the basis of task performance during the process and product created in that process; (3) AA concentrates on measuring thinking problem-solving abilities which enable the learner to reveal their thinking, activeness, creativity, and their individual competencies in the learning process; (4) AA permits providing direct and authentic evidence of students' obtainments, based on the typical properties and abilities of each individual rather than mechanical grading; (5) AA suggests new functions of assessments to the teachers.

Some characteristics and requirements in SCD-oriented SLOA include:

Order	Characteristics	Requirements
1	Being based on criteria for assessing competences	Assuring reliability and validity
2	Involvement of students in the assessing process	Assuring flexibility
3	Judging based on evidence	Assuring equity

Order	Characteristics	Requirements
4	Taking place in the relationship between teaching and learning	Enhancing learning activity and self-assessment

- On the relationship between LOA and SCD in CBT at HE level

- *Regarding activities*, HE management is conducted via main activities, namely: teachers' teaching which is combined with students' learning/self-learning/research/self-assessment (Biggs, J. B., 2003). In this regard, one can see that SCD is the convergent point in the teaching and learning activities and the target for which HE teaching heads.

- *Regarding contents*, HE management is conducted to systematically equip students with basic and special scientific knowledge, special and professional skills, professional ethics and attitudes, and citizen qualities, etc. In this regard, one can see that SCD does not directly belong to course contents in HE management but belong to the operation of that process (in a cause-effect relationship). This is the relationship between a process (of acquiring course contents) and the results (establishing and developing students' competencies) of that process. In this relationship, LOA is considered as one of the teaching tools which exert effects on the enhancement of students' competencies in the training process (Stiggins, R. J., 1996).

- *Regarding organization and management*, HE management can be conducted in various ways. No matter what way it is, the objectives set out in HE management have to cover SCD and its importance. In brief, in this regard, the relationship between HE organization and management in CBT and SCD is reciprocal and adaptable. In it, LOA provides judgment on training quality and works as the basis of decision making in training management. It helps diagnose and confirm students' competencies, adjust, and motivate both teachers and students in their respective processes.

1.4.2.3. Elements and their link in the SLOAM in CBT

In terms of contents, according to the system-based approach, the SLOAM consists of three componential groups as follows: **(1) the basic group**, which represents the important characteristic of any SLOA activities in higher education and must be clarified: objectives of LOA, principles for LOA, content of LOA, modes of LOA (illustrated by the combination of instruments-techniques and forms of LOA), procedures for LOA; **(2) the factor group**, consists of lecturers (and/or experts), students, academic managers, testing officers; and **(3) the contextual group**, which consists of the CBT trend and the need to insure training quality based on outcomes. This group refers to the environment that has effects on the other two groups in a way that the learner

becomes the center and strongly enhance the activeness of students and the autonomy-responsibility of institutions to society for their training quality.

In terms of activity, based on the theory of the factors above together with the reference of the logic models for education planning and assessment, I have synthesized and operationalized those components based on the operational structure of the model into three chapters of thesis. In general, the operational structure of the SLOAM in CBT consists of four main components. They are: (1) the context which has effects on the other two components of the model; (2) the Input which is considered to be necessary resources to invest and to insure the operation of the SLOAM based on the set objectives; (3) the processes which reflect the application of the model to reality, focusing on the combination of teaching, learning, and assessing students' outcomes in the CBT; and (4) the outcomes of the model, the degree of which should be clarified, e.g. short-term outcomes, medium-term outcomes, and long-term outcomes based on the competence-based approach to testing and assessing students' LO in the CBT.

As said, on the one hand the operational structure of the SLOAM in the CBT is suggested on the basis of reference to the undergraduate curriculum planning and assessment model. On the other hand, the definition of these factors and their functioning mechanism in this model well adapts to the integration of teaching, learning, testing and assessing students' LO in the current CBT in Vietnam. The description of the components above makes up the structure of the SLOAM and it will be specified in chapter three.

Conclusions for chapter 1

1. Studies on the theories and practices from inside Vietnam and abroad and have systematically reflected common issues in LOA at HE level, different perspectives on and approaches to SLOA, different models of LOA at institutional level, etc. meanwhile, researching and proposing a pedagogical model of SLOA in compatibility with the context of changing to the CBT system in Vietnam is necessary but has not adequately been studied.

2. Despite some reforms and improvements in training modes at HE level, the science of measurement – LOA is still crucial as it indicates the effects, roles, principles, approaches, and the procedure of LOA, etc. We can apply and popularize it in HE. Accordingly, inquiring the SCD-oriented SLOAM is one of the most suitable trends to the context of changing to CBT in Vietnam.

3. Viewpoints on competencies, SCD, SCD-oriented LOA, the relationship between LOA and SCD in CBT at HE level exert their effects on directing the research to establish a feasible SCD-oriented SLOAM. Simultaneously, the accentuation of the SCD-oriented SLOAM and determining the elements and their relationship in terms of structure and content is to provide

the theoretical foundations for constructing this model for the practice of SLOA in the current CBT.

CHAPTER 2
PRACTICES OF STUDENTS' LEARNING OUTCOMES ASSESSMENT IN THE CURRENT CREDIT-BASED TRAINING SYSTEM

2.1. Study objectives, contents, methods, subjects

2.1.1. Objectives

On the basis of studying the activity of SLOA at the institutions that are running the CBT system, the degree of satisfying those requirements in SLOA in CBT, SCD-oriented LOA, and the revelation of the elements in the SCD-oriented SLOAM in CBT will be clarified.

2.1.2. Contents of and criteria for evaluating the study results

Given the objectives above, the contents of and criteria for evaluating the study results are defined in Table 2.1.

Table 2.1: Contents of and criteria for evaluating study results

Order	Contents	Evaluation criteria
1	Reality of LOA in CBT	- accuracy, equity, objectivity and flexibility in LOA; - Effectiveness of organizing, managing, disseminating information on LOA in CBT
2	Reality of SCD-oriented LOA in CBT (via the contents of and tools for LOA).	- Integrity of the contents of SCD-oriented LOA in CBT - Compatibility, diversity, and effectiveness of applying SCE-oriented LOA tools to CBT
3	The degree of revelation of key elements in the SLOAM in CBT	
3.1.	Context (regulations on LOA in CBT).	- Impact of regulations on the awareness, behaviors among managers and teachers and real effects of these regulations
3.2.	Input (syllabus design)	- Degree of adequacy of information in syllabi according to requirements in the SLOAM in CBT
3.3.	Procedure (operating and reviewing activity of LOA)	- Reasonability, feasibility, and unity of the LOA procedure -Degree of adequacy, detailing, punctuality, and effects of information in the SLOA procedure

Order	Contents	Evaluation criteria
3.4.	Outcome (general comments on students' LO through the lenses of teachers and students themselves).	- Degree of satisfying the various outcome requirements in the SLOAM in CBT
3.5.	Factors (including teachers' and students, as well as experts' ideas, etc.	- Screening ideas provided by those involved based on the characteristics of each factor in the structure of the SLOAM in CBT

2.1.3. Study methods

They were for the most part conducted via: 1). Surveying teachers, 2). Referring back to legal documents for related information and consulting managers, scientists, teaches, and students, etc. and 3). Observing the SLO activity at course level.

2.1.4. Study subjects

The subject sample was 93 teachers, 448 students and some managers working at universities that are running the CBT system. These institutions are The University of Sciences, The University of Technology, The University of Social Sciences and Humanities, The University of Economics and Law, The University of Economics, and The Open University, all of which are in Ho Chi Minh City.

2.2. Study results

2.2.1. The reality of SLOA in CBT through the lenses of teachers and students

The accuracy, equity, objectivity, and flexibility in the LOA activity, together with and the effectiveness of organizing, managing, and disseminating information on LOA in CBT, still harbor limitations.

2.2.2. The reality of SCD-oriented SLOA in CBT based on some contents and LOA tools

In general, the contents of SLOA at course level is more or less superficial as they are more concerned with the acquired knowledge than other aspects, especially competencies, attitudes, and qualities of the learner.

There is a combination of various modes in the latest SLOA tests in CBT. They are multiple-choice tests and essay questions. However, the use of these tools has some defects and so hardly meets the objectives of SCD-oriented LOA.

2.2.3. Reality of the degree of revelation of key elements in the SLOAM in CBT

The degree of revelation of and satisfying the required elements in the SLOAM in CBT, such as syllabus design, implementation of the SLOA procedure, definition of program outcome, etc, are through the survey shown to be inadequate.

Conclusions for chapter 2.

1. SLOA in CBT goes according to students' evaluation around the average-good level on the survey scale. Other aspects such as feasibility and the legal documents, procedure, accuracy, equity, flexibility, and dissemination of information on LOA in CBT have not been considered good.

2. The objectives, effects, contents and tools in SCD-oriented LOA is superficial, inharmonious, monotonous, and has not adequately make use those values, functions, and roles of the LOA activity for CBT. The results of this survey show that the accuracy of the proposed scientific hypothesis about the status of students in CBT.

3. The revelation degree of the LOA reality via the elements in the SCD-oriented SLOAM has shown quite a few confinements and limitations which can be seen in the matter of competence-based syllabus design, operating and reviewing the SLOA activity, and capitalizing on the positive aspect of the current CBT-related documents in Vietnam.

CHAPTER 3. PROPOSING AND APPRAISING THE FEASIBILITY OF THE STUDENTS' COMPETENCE DEVELOPMENT-ORIENTED STUDENTS' LEARNING OUTCOMES ASSESSMENT MODEL IN CREDIT-BASED TRAINING

3.1. Approaches to proposing the model: system-structure approach, objective-function approach, and the integrated

3.2. Instrumental concepts and natures of the model

3.2.1. Instrumental concepts

3.2.1.1. Learning topic: another mode of expressing the course contents, in which there is a selection and combination of groups of knowledge and skills into a rather complete scientific and practical structure. This structure is conducive to teaching, learning and SCD-oriented LOA.

3.2.1.2. Learning task: a special constituent in a course, which is designed on the predication of integrating LOA in form of learning tasks to be completed before, during, and after the learning process into learning topics

3.2.2. Natures of the model

- treating students' LO as competencies;

- The contents in testing and assessing LO are the levels of competencies which fall into two major groups (i.e. general competencies and special competencies) on the basis of changing the courses objectives to competency standards;

- Modes of testing and assess LO firmly connect teaching activities and learning activities in CBT through students' work to implement learning tasks, corresponding to learning topics set out in the course.

- Testing and assessing outcomes are used to determine students' LO in compatibility with regulations in CBT and to reflect and adjust students' learning.

3.3. Operational structure and the link between elements in the model

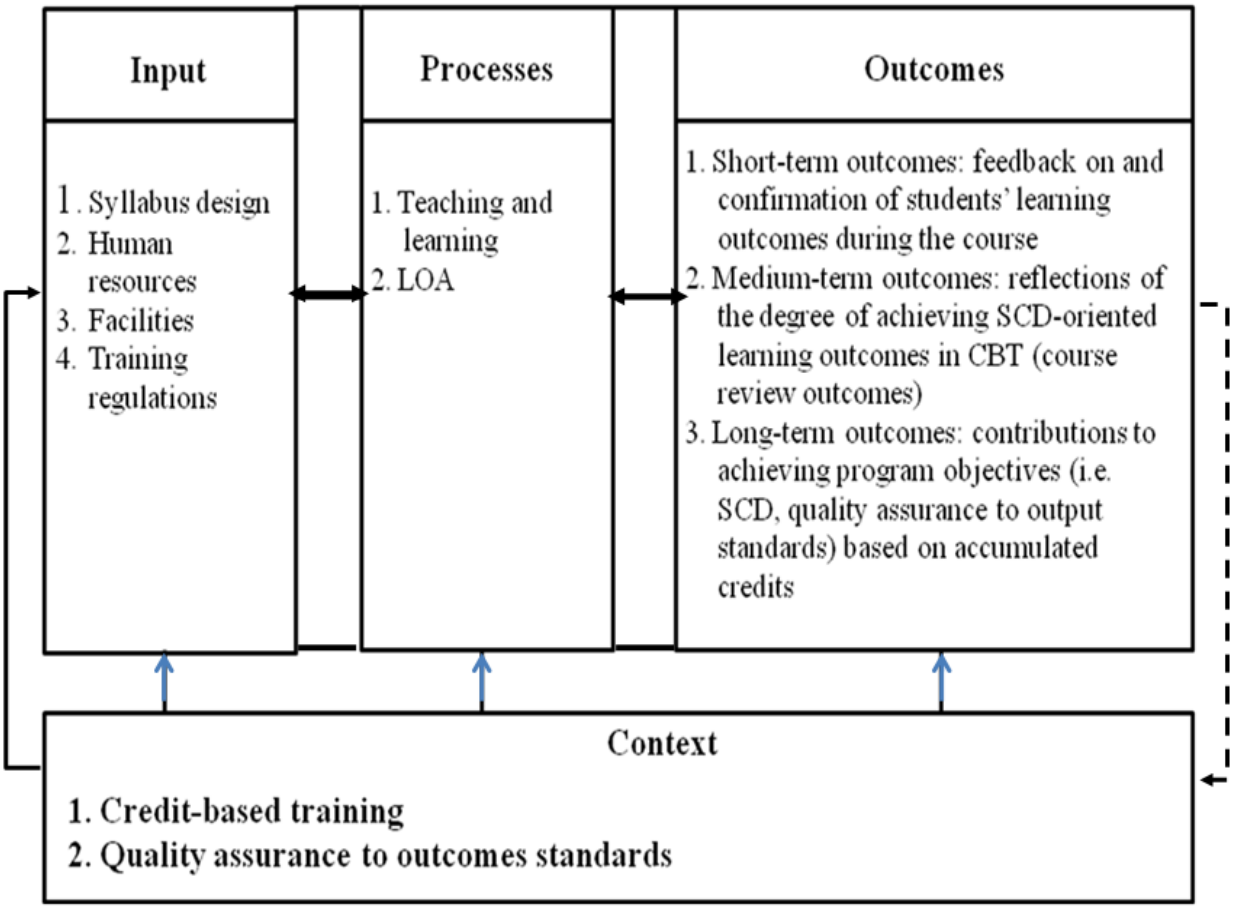


Figure 3.1: Operational structure and the link between elements in the model

Functions of models: (1) *Linking*; (2) *Tooling*; (3) *orienting competence development*

3.4. Characterizing the model

3.4.1. Principles of assessment

(1) Assessment should focus on the revelation of competencies, (2) Assessment should combine formative assessment and summative assessment,

(3) Assessment should assure the unity of contents to be assessed (degree of achieving general competencies and special competencies) and diversify assessing modes, (4) Assessment should be conducted with individuals and in groups, (5) Assessment should assure adequate information.

3.4.2. Contents to be assessed

Assessment should focus on the degree of general and special competency revelation.

3.4.3. Assessing modes

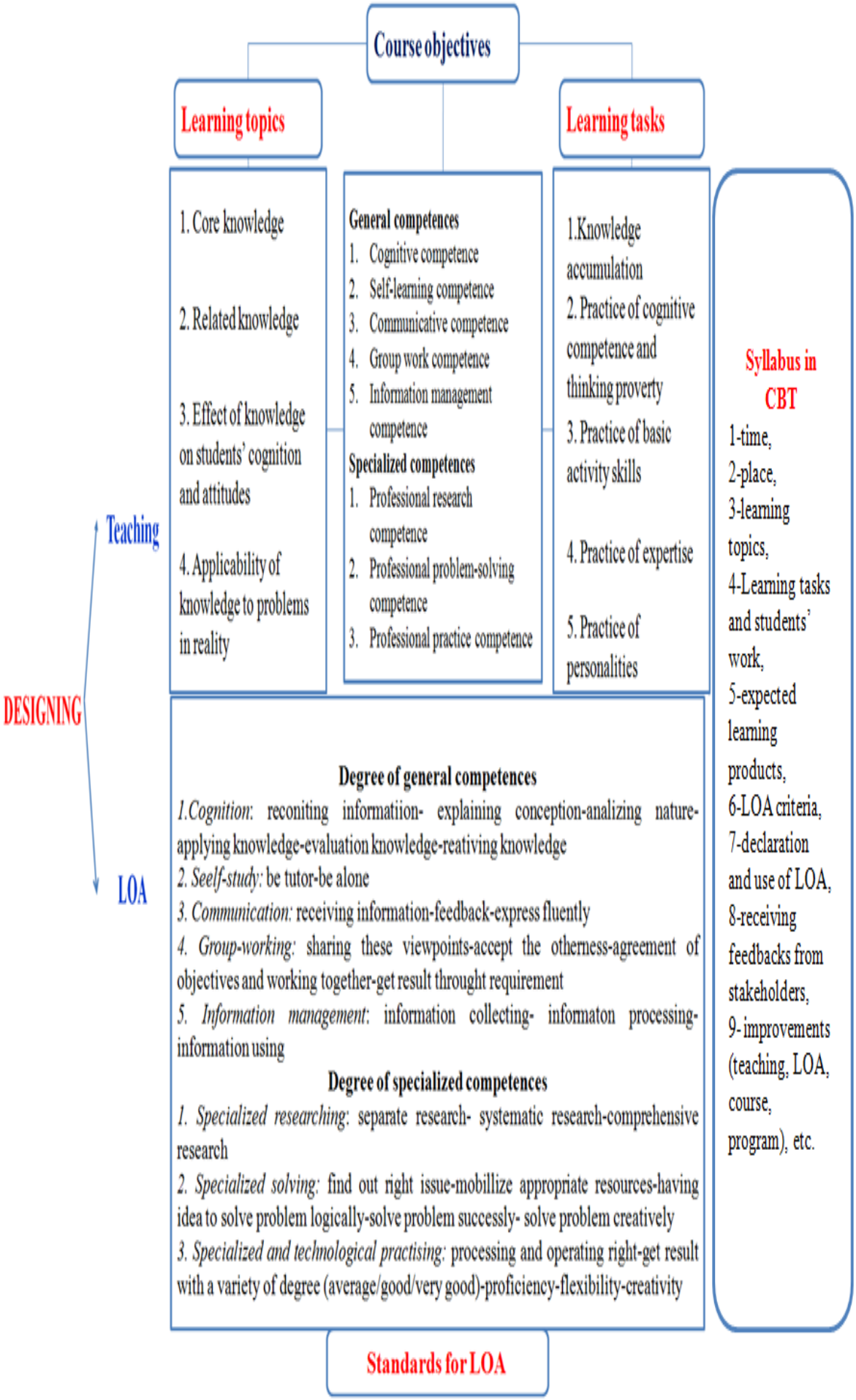
- **Assessing methods/techniques:** mainly the criterion-referenced assessment;

-Assessing tools: combining oral assessment and written/essay assessment together with three idiosyncratic tools in SCD-oriented LOA. These three are performance, portfolio, and rubrics.

- **Assessing modes:** the activity of performing tasks, learning tasks in and after the completion of each course.

3.4.4. Assessing procedure

The remarkable feature of the LOA procedure in this model is that is integrated and connected with the teaching process in CBT through three main phases: **D**esigning; **I**mplementing; and, **R**eviewing, referred to as the DIR process.


Course objectives
Learning topics
Learning tasks
1. Core knowledge
2. Related knowledge
3. Effect of knowledge on students' cognition and attitudes
4. Applicability of knowledge to problems in reality
General competences
1. Cognitive competence
2. Self-learning competence
3. Communicative competence
4. Group work competence
5. Information management competence
Specialized competences
1. Professional research competence
2. Professional problem-solving competence
3. Professional practice competence
1.Knowledge accumulation
2. Practice of cognitive competence and thinking proverty
3. Practice of basic activity skills
4. Practice of expertise
5. Practice of personalities
Syllabus in CBT
1-time,
2-place,
3-learning topics,
4-Learning tasks and students' work,
5-expected learning products,
6-LOA criteria,
7-declaration and use of LOA,
8-receiving feedbacks from stakeholders,
9- improvements (teaching, LOA, course, program), etc.
DESIGNING
Teaching
LOA
Degree of general competences
1.Cognition: reconiting informatiion- explaining conception-analizing nature-applying knowledge-evaluation knowledge-reativing knowledge
2. Seelf-study: be tutor-be alone
3. Communication: receiving information-feedback-express fluently
4. Group-working: sharing these viewpoints-accept the otherness-agreement of objectives and working together-get result throught requirement
5. Information management: information collecting- informaton processing-information using
Degree of specialized competences
1. Specialized researching: separate research- systematic research-comprehensive research
2. Specialized solving: find out right issue-mobillize appropriate resources-having idea to solve problem logically-solve problem successly- solve problem creatively
3. Specialized and technological practising: processing and operating right-get result with a variety of degree (average/good/very good)-proficiency-flexibility-creativity
Standards for LOA

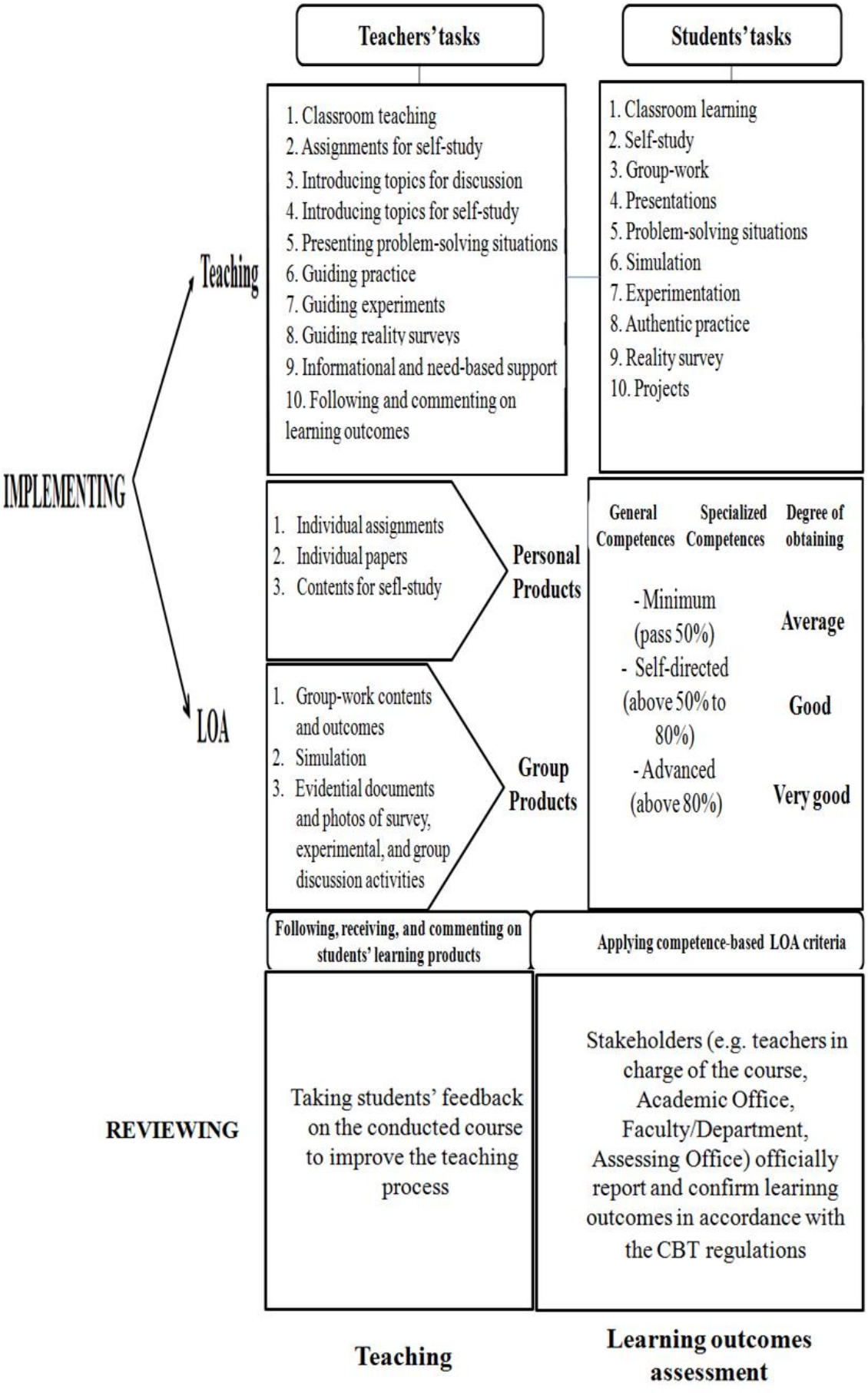


Figure 3.2. The LOA procedure integrated into teaching in CBT

3.5. Solutions to operating the model

3.5.1. Changing to syllabi designed to the orientation of competency development

3.5.2. Integrating the teaching, learning and assessing activities according to the procedure wherein students perform learning tasks

3.5.3. Employing criteria as the basis of assessing the degree of completing learning tasks in each course and as tools to orient students' revelation of competencies.

3.5.4. Combining the flexible use of the traditional SLOAM and SCD-oriented SLOAM in CBT.

3.6. Conditions for applying the model

- Designing syllabi simultaneously with the SCD-oriented SLOAM;

- Combining the design of LOA and that of teaching process via learning tasks;
- Others

3.7. Appraising the feasibility of the model

3.7.1. Appraising the feasibility of the model through the experimental course

3.7.1.1. Purpose of the experiment

In order to appraise the feasibility of the model via applying it to the experimental course in CBT at HCM City University of Social Sciences and Humanities

3.7.1.2. Contents and organization in the experiment

3.7.1.2.1. Contents in the experiments

(1) Designing syllabi in compatibility with the SCD-oriented SLOAM in CBT

(2) Organizing the teaching activity and SLOA in accordance with the designed syllabus. Specifically:

- Receiving and collecting evidence about students' LO via their performing learning tasks in or after the completion of the course;

- Convening students to receive feedback and comments on students' task performance (predicated on the criteria to assess the outcome of task performance which is shown in the syllabus) in appropriate forms during the course (via peer assessment, self-assessment, and that by the teacher in charge)

(3) Processing questionnaires for students' feedback on the effectiveness of LOA in the experimental course

3.7.1.2.2. Organizing the experiment: Phase 1: Conducting the preliminary survey on the course Theories of Education; Phase 2: Officially experimenting on the course General Principles of Management

3.7.1.3. Criteria, survey tools and scales

- *Criteria for assessing the experiment results*

This set of criteria consists of 3 standards and 17 criteria shown in Table 3.1.

Table 3.1. Set of criteria for appraising the experiment results

Standard 1: Degree of integrity in objectives and contents in LOA in the SCD-oriented course

(1) Reflecting rather perfectly the aspects of students' development to the course objectives
(2) Considerably affecting SCD
(3) Assuring the accuracy of assessment results
(4) The integrity of the LOA objectives through the course confirmed by students
(5) Covering the basic knowledge scope of the course
(6) Focusing on basic necessary skills (i.e. communication, group work, planning, self-assessing, etc.) to be acquired by students
(7) Focusing on realistic association and problem-solving skills
(8) Focusing on refining cognitive ability and creative thinking
(9) Focusing on refining students' research skills
(10) Focusing on enhancing students 'awareness of learning (responsibly, seriously, and actively)

Standard 2: Appropriateness and effectiveness in LOA at HE level in form of learning tasks

(11) Ways of assessment strongly link with learning and teaching methods
(12) Reliable LOA through students' performing learning tasks (reliability)
(13) LOA through learning tasks, which reflects the authentic students' LO (validity)
(14) Effectiveness of LOA through students' performing learning tasks

Standard 3: The degree of reasonability, feasibility, and strong unity in the procedure of SCD-oriented LOA through the course

(15) Assuring directional information of course-based LOA
(16) The course conduction plan and the LOA procedure reasonable, strongly unified, and specific
(17) The course plan and the LOA procedure reasonable, flexible, and CBT-

suited

- *Tool to survey the experiment results:*

(1) Surveys for students' feedback on the experiment-based LOA and (2) surveys for students' feedback on performing the learning tasks in the experimental course

- *Survey scale:*

Scale	Etiquettes on level of criteria satisfaction
Students' agreement from 90% up	Very strong
Students' agreement from 80% to less than 90%	Strong
Students' agreement from 70% to less than 80%	Fairly strong
Students' agreement from 50% to less than 70%	Not strong
Students' agreement less than 50%	Weak (fail)

3.7.1.4. Experimental results

The positive feedbacks by students regarding the course-based LOA showed that the model is feasible and the study hypothesis is right.

Although there were negative feedbacks and the experiment results did not completely satisfy the principles of the pedagogical experiment, the results have confirmed the scientific quality and feasibility of the SCD-oriented SLOAM in the current CBT system in Vietnam.

3.7.2. Appraising the feasibility of the model through the lenses of experts

Experts strongly agreed upon the model in terms of feasibility about the scientific and feasible model [LP. Code]; the content of LOA is shown in the model [DM. Code]; about methods, processes of LOA subjects are shown through models [DC. Code]; and, for the organization of teaching and LOA is shown in the model [KD.; DC.; LP. Codes].

Conclusions for chapter 3

1. About the proposed model

1.1. Natures of the model: this is a model which integrates the teaching and learning activities into the SCD-oriented SLOA, in which SLOA is considered as a typical teaching tool in CBT.

1.2. Operational structure: the SCD-oriented SLOAM clearly defines the pivotal elements which orient the procedure of organizing and implementing the SLOA activity from designing to reviewing.

1.3. Operating the model: there should be a synchronous attention to four main solutions related to reforming the design of syllabi, organizing teaching and learning activities according to a procedure wherein students perform the learning tasks which are required in syllabi, employing criteria to assess the degree of students' completing learning tasks and to work as a tool in orienting SCD, using diverse SCD-oriented LOA tools in combination.

1.4. The expected result of the model: there should be a focus on the harmony of short-term results (feedback and determination of students' LO in the course of each course), medium-term results (orientation of SCD), and long-term results (assuring the training quality according to outcome standards in CBT).

2. About the feasibility of the model

2.1. Designing the course-based SLOA according to the directions in the proposed SCD-oriented SLOAM in CBT, which has been presented in chapter 3, and the conduction of the experiment were procedurally correct.

2.2. The experiment results through students' feedbacks showed the feasibility of the model.

2.3. The appraisal of the model feasibility was confirmed by experts.

2.4. The feasibility of the model through experts and through the experiment further enhanced the rightness of the study hypothesis, study objectives, and study tasks.

CONSLUSIONS AND RECOMMENDATIONS

1. Conclusions

1.1. The theoretical contents of the thesis, such as history of the research problem and studies on LOA in HE, theories of concepts, roles, principles, modes, and procedures of SLOA in HE in general and in CBT in particular, together with the directional viewpoints on the CD-oriented SLOAM in CBT, from which to determine the content structure and the operational structure, work as a strong foundation for proposing the model, appraising the feasibility of the model, and directing the reality of SLOA in the current CBT system in Vietnam.

1.2. The practice of SLOA in CBT shows to harbor some limitations of issued documents on CBT in terms of feasibility and the equity, flexibility, and information on CBT are not well assured. The contents and tools of SCD-oriented LOA are superficial, monotonous, and have yet to exploit all the values, functions, roles of the LOA activity in CBT.

The degree of revelation and satisfaction of the LOA activity through the SCD-oriented elements showed that there were some limitations in SCD-oriented syllabus design and the operation and reviewing of SLOA. The limitations were also seen in other regards such as the utilization of the positive aspects available in context of outcome quality standard assurance and CBT-related documents.

1.3. In order to satisfy all requirements in outcome standard improvement and assurance in the current CBT system, the course-based SLOA need researching and applying on the basis of integrating LOA into SCD-oriented teaching and learning processes.

1.4. The proposed SLOAM showed to be feasible through the experimental course in the CBT program and received very positive feedbacks from students participating in the course as well as experts.

2. Recommendations

2.1. Training managers at different levels need to more adequately, clearly, and flexibly institutionalize those regulations on training and LOA in CBT. They also need to disseminate information and organize effective training in program design, syllabus design, conducting training activities and SCD-oriented LOA activities on the basis of findings in this study.

2.2. Due to the limitations connected with the SLOA, information on course-based LOA needs to be adequately assured in terms of contents; it should well direct the self-learning, self-assessing activities among students, and become the official ground on which to diversify optimally modes of organizing teaching and SCD-oriented LOA activities. The results of this survey show that the accuracy of the proposed scientific hypothesis about the status of SLOA in CBT.

2.3. In order to apply this model to practice, it is necessary that there be synchronous solutions from program management, syllabus design, program design, employment of lecturers together with teaching assistants, and change to SCD-oriented LOA through diverse activities (in forms of learning tasks connected with expectations from the course) among teachers and students in HE settings.

2.4. Due to the objective and subjective difficulties, the thesis only arrived at the applicability of the SCE-oriented model at course level in the current CBT system. Therefore, further research may be concerned with the tools, modes and techniques typical of the SCD-oriented SLOAM in specific programs.

LIST OF PAPERS CONCERN THE THESIS

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2. Nguyen Thanh Nhan (2010), "Study the basic of evaluating the effectiveness of teaching methods in universities", *Journal of Educational Management*, NIEM, ISSN: 1859-2910, Vol 17, pp 21-24.
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6. Nguyen Thanh Nhan (2012), "Organizing college teaching through learning duties from the perspective of evaluation and verification", *Educational Review*, MOET, ISSN: 0866-7476, Vol 289, pp 58-61.
7. Nguyen Thanh Nhan (2013), "Model and evaluation criteria of learning results through oriented capacity development students", *Journal of Educational Management*, NIEM, ISSN: 1859-2910, Vol 45, tháng 02/2013, pp 25-30.