

Faculty's and Medical Students' Opinion towards the Use of Logbook at Department of Surgery,  
Bangkok Metropolitan Administration Medical College and Vajira Hospital

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A Thesis Submitted in Partial Fulfillment of the Requirements  
for the Degree of Master of Science Program in Health Development  
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บทคัดย่อและแฟ้มข้อมูลฉบับเต็มของวิทยานิพนธ์ตั้งแต่ปีการศึกษา 2554 ที่ให้บริการในคลังปัญญาจุฬาฯ (CUIR)

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ความคิดเห็นของอาจารย์และนักศึกษาแพทย์ต่อการใช้สมุดบันทึกการปฏิบัติงาน  
ภาควิชาศัลยศาสตร์ วพบ.

นายณัฐพล สันตระกูล

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต  
สาขาวิชาการพัฒนาสุขภาพ  
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Thesis Title Faculty's and Medical Students' Opinion towards the Use of Logbook  
at Department of Surgery, Bangkok Metropolitan Administration  
Medical College and Vajira Hospital

By Mr. Nataphon Santrakul

Field of Study Health Development

Thesis Advisor Associate Professor Nantana Sirisup,M.D.

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## 517 50 554 30:MAJOR HEALTH DEVELOPMENT

Keywords: opinion/logbook/porfolio

Nataphon Santrakul MD :Faculty's and Medical Students' Opinions towards the Use of Logbook at Department of Surgery, Bangkok Metropolitan Administration Medical College and Vajira Hospital. Advisor: Associate Professor Nantana Sirisup, M.D. , Co-Advisor: Danai wangsaturaka, M.D., Ph.D.

**Objective:** To determine the opinion of the faculty and the medical students toward the use of the logbook at Department of Surgery, Faculty of Medicine Vajira Hospital

**Method:** This research made in all faculty and 4<sup>th</sup> – 6<sup>th</sup> medical students at Department of Surgery, Faculty of Medicine Vajira Hospital. The opinion was collected by used questionnaires in difference dimension to logbook. Questionnaires included opinion in upgrade of logbook. The result was used to develop teaching and learning in department.

**Results:** A total of 235 (82.2%) participants consisted of 36 faculty (15.3%), and 199 medical students (4<sup>th</sup> = 85, 5<sup>th</sup> = 91, and 6<sup>th</sup> = 72).

Faculties and medical student were agreeing with that the logbook should be improved. They agree with logbook is an important tool for learning. They perceived the logbook recording took a lot of time and could not be done immediately after finishing the activities. Faculties agree with that examining the logbook consumed a great time. Faculties agree with that they cannot remember student at times to sign.

**Conclusion:** Faculties and medical student were agreeing with that the logbook should be upgrade. Recording in the logbook is necessary for student's learning.

Field of Study : Health Development

Academic Year : 2011

Student's Signature.....

Advisor's Signature.....

Co-advisor's Signature.....

ณัฐพล สันตระกูล :ความคิดเห็นของอาจารย์แพทย์และนักศึกษาแพทย์  
ต่อการใช้สมุดบันทึกการปฏิบัติงาน ภาควิชาศัลยศาสตร์ วิทยาลัยแพทยศาสตร์กรุงเทพมหานคร  
และวชิรพยาบาล.( Faculty's and Medical Students' Opinions towards the Use of Logbook at  
Department of Surgery, Bangkok Metropolitan Administration Medical College and Vajira  
Hospital) อ.ที่ปรึกษาวิทยานิพนธ์หลัก ผศ.พญ.นันทนา ศิริทรัพย์, อ.ที่ปรึกษาวิทยานิพนธ์ร่วม  
อ.นพ.ดร.คณัย วังสูตร, 29 หน้า

**วัตถุประสงค์ :** เพื่อสำรวจความคิดเห็นของนักศึกษาแพทย์และอาจารย์แพทย์  
ที่มีต่อการใช้สมุดบันทึกการปฏิบัติงานของภาควิชาศัลยศาสตร์

**วิธีดำเนินการวิจัย :** การวิจัยครั้งนี้ทำการศึกษาในนักศึกษาแพทย์ชั้นปีที่ 4, 5, และ 6  
จำนวนรวม 240 คน รวมกับอาจารย์แพทย์ 46 คน ในภาควิชาศัลยศาสตร์  
คณะแพทยศาสตร์วชิรพยาบาล โดยการใช้แบบสอบถาม  
เพื่อประเมินความคิดเห็นอาจารย์แพทย์และนักศึกษาแพทย์ ต่อการใช้สมุดบันทึกการปฏิบัติงาน  
ในการสร้างแบบสอบถามครั้งนี้ ผู้วิจัยได้ทำการสำรวจความคิดเห็นที่มีในด้านต่าง ๆ  
ที่มีต่อการใช้สมุดบันทึกการปฏิบัติงาน

รวมถึงความคิดเห็นว่าควรมีการปรับปรุงสมุดบันทึกการปฏิบัติงาน หรือไม่ เพื่อนำผลการวิจัยไปใช้  
เป็นส่วนหนึ่งในการพัฒนาการเรียนการสอน ภายในภาควิชาศัลยศาสตร์ต่อไป

**ผลการศึกษา :** ผู้ตอบแบบสอบถามทั้งหมด 235 คน (ร้อยละ 82.2) เป็นอาจารย์แพทย์  
จำนวน 36 คน (ร้อยละ 15.3) นักศึกษาแพทย์ (ชั้นปีที่สี่ 85 คน ชั้นปีที่ห้า 91 คน ชั้นปีที่หก 72 คน)  
รวม 199 คน จากการวิจัยพบว่าทั้งอาจารย์แพทย์ และนักศึกษาแพทย์เห็นด้วยกับ  
ความคิดเห็นว่าควรมีการปรับปรุงเพิ่มความสะดวกและเห็นด้วยว่าการใช้สมุดบันทึกการปฏิบัติงานมี  
ส่วนสำคัญในการเรียนรู้ของนักศึกษาแพทย์ในทางกลับกันนักศึกษาแพทย์มีความเห็นว่าการบันทึก  
ลงสมุดบันทึกการปฏิบัติงานนั้นใช้เวลานาน เป็นการทำงานที่ซ้ำซ้อนและเสียเวลาในการลงบันทึก  
รวมถึงไม่สามารถบันทึกหลังทำกิจกรรมได้ในทันทีที่อาจารย์แพทย์มีความเห็นว่าการตรวจสมุดบันทึก  
การปฏิบัติงานนั้นใช้เวลานานและไม่สามารถจํานักเรียนที่นำสมุดบันทึกการปฏิบัติงานมาให้เซ็นชื่อ  
ออกกับภายหลังได้ว่าปฏิบัติจริง

**สรุป :** ทั้งนักศึกษาแพทย์และอาจารย์แพทย์มีความคิดเห็นว่  
ควรมีการปรับปรุงเพิ่มความสะดวก และยังเห็นว่าเพิ่มความสะดวกยังมีส่วนสำคัญในการเรียนรู้

สาขาวิชาการพัฒนาสุขภาพ  
ปีการศึกษา 2554

ลายมือชื่อนิสิต.....  
ลายมือชื่ออ.ที่ปรึกษาวิทยานิพนธ์ร่วม.....  
ลายมือชื่ออ.ปรึกษาวิทยานิพนธ์หลัก.....

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## CHAPTER I

### INTRODUCTION

The Department of surgery is one of the major departments in BMA Medical College and Vajira Hospital. The main responsibility is to take care of the patients who require operation or are expected to have surgical condition. The department comprises of seven units of each subspecialty: general surgery, cardiovascular, plastic, pediatric, colorectal, uro-genital, neurological. Aside from service, the other major task is to educate medical learners at all levels, ranging from the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> years medical students, residents of the department itself, rotating residents and fellows from the other departments. All of the undergraduate medical students and postgraduate students are scheduled to have rotation in various units of the department. Base on levels of learners, teaching and learning formats consist of departmental lectures, teaching in small groups, self-study, participating in departmental and subspecialty unit academic activity, treatments and cares of patients. The activities are conducted in an outpatient clinic, in-patient hospital wards, as well as in the operating room. Our teaching and learning embrace basic pathophysiology, fundamental principles of surgery, treatment and cares of surgical patients, as well as surgical skills.

The department recognizes that a good quality of training is mandatory. The chair of the department and faculty always look for appropriate means to improve or ensure that each learner receives the best possible education in surgery and other relevant knowledge in other fields as well. We arrange the teaching and learning for undergraduate medical students in concordance with the standard criteria for medical practice of The Medical Council 1993.

The process of learning has been going on efficiently to meet minimal requirements. Each medical student will receive a Logbook at the beginning of their period of rotation in the department. Logbook has been used in department of surgery BMA and Vajira Hospital for over 10 years. They were refined and updated from time to time. In the past, medical student was to record only their experience in surgical procedures, cases encountered at outpatient clinic or during their overtime duty, and surgical cases observed in an operating room. At the end of rotation, the student's Logbook would be collected and submitted to the faculty who would assess and give the scores. A few problems were encountered: the medical students were not aware of criteria of the logbook scoring system while the faculties were too tired to assess it because of being a time-consuming work and difficulty in reading hand writing.

In recognition of the problems, the Logbook format was revised to include criterion of marking system and a more frequent assessment. Generally, medical students in the department of

surgery are informed about the criteria at the beginning of their rotation to the surgical department. The students then must carry the Logbook along with them during daytime and overtimes, and follow the instruction how to record all activities they have performed according to various portfolios in the book. The descriptions of activity are noted along with the executed date, signed by the attending residents or surgical staffs of the department. The faculty also assesses the Logbook twice. The first one is at the mid-period of the rotation with a description of his/ her feedback. Data from the Logbook are also used in an interval formative assessment to provide an opportunity for the students to review and reorganize their objectives and goals for learning. The second evaluation is then conducted again at the end of rotation to see any progression of the student and whether they achieve minimal requirements of surgical learning.

However, some problems remain regarding the process of recording by the students and the assessment by the staffs. For the student recording process, some medical students fail to make an immediate data entry into the Logbooks but record data when the teaching and learning are coming to an end. This results in a difficulty for the surgical staffs to make an assessment and follow up for improvement during the course of learning if any student still has lacks experience in certain subjects. Furthermore, a lag time between the actual performance and the assessment will make the scoring inaccurate. Additional problems are the reliability, validity, inter-rater variation in scoring for the students within the same academic year, and intra-rater variation for the students in different academic years (4<sup>th</sup> vs. 5<sup>th</sup> vs. 6<sup>th</sup> year students) (Table 1).

**Table 1. Percent of mark contain in portfolio logbook each year**

Academic year of medical students	4 <sup>th</sup> year	5 <sup>th</sup> year	6 <sup>th</sup> year
Assessment day time, night time activity, and ward round	6%	6%	-
Logbook (record surgical procedures)	5%	5%	6%
Assessment in period of OPD from staff	4%	4%	4%

Aside from teaching medical students of BMA Medical College and Vajira Hospital, the Department of Surgery has long been approved by the Thai Royal College of Surgeon and The Medical Council of Thailand to conduct a residency training in general surgery. In the training program, certain surgical knowledge and skills must be acquired. Various operative procedures must be recorded in a logbook to verify their performances according to the requirements of The Royal College of Surgeon. Data are recorded in a personal E-logbook that requires his/ her assigned user name and password for each entry. This can be achieved through the computerized hospital network and onto the Website of Royal College of Surgeon of Thailand (<http://www.surgeons.or.th/main/index.php>). Such data entry must be fully completed within six months after each operation. Before such logbook can be considered as “completion”, the

attending staffs must monitor that this record is valid and reliable, and to supervise learning process of each resident. This record assists the residents, faculty, and the committee of the Royal College of Surgeon to monitor the quality of training in many aspects, such as adequacy of number of surgical cases and the types of operation required in the training program according to the outlines of Royal College of Surgeons of Thailand.

E-logbook of the surgical resident has a section which specifies the level of surgical procedure performed by a resident, including observation, assistant, or operation under supervision. The resident must record the patients' hospital number, admission number, diagnosis, type and date of operation, name of attending staff who will be responsible in a confirmation of the record. Advantages of the E-Logbook are a convenience for the resident to record data immediately after operation by an internet access through a computer in operating room access the to fill the E-Logbook. Most of all, all the Medical Education subcommittee of Department of Surgery can effectively evaluate the results of teachings and learning and provide feedback.

The researcher is a member of the Medical Education subcommittee of Department of Surgery, being responsible for the teaching and learning within the department in both undergraduate and postgraduate levels. With a problem of continuing data recording of the medical students, the researcher has an idea to create a similar electronic portfolio logbook for medical students as that of the E-logbook of the surgical residents. Electronic medical student's portfolios will contain the same subject headings as the traditional portfolios, with a utilization of multimedia materials i.e. digital format-web pages, databases, power point, video, CD, etc. This is expected to make it convenient for the recording process of the students and help surgical staffs to continuously follow after the progression of medical students at all times. Furthermore, an electronic portfolio will allow a reflective connection within and between principles, artifacts, experiences, and as a means to feedback what are still lacking.

Before any decision to use E-logbook, a current situation of the medical student assessment must be objectively analyzed. A researcher would like to know the opinions and acceptability of surgical staffs and medical students towards the conventional portfolio logbook in order to reform or develop a new E-logbook.

## CHAPTER II

### REVIEW OF THE RELATED LITERATURE

Studying medicine at the clinical class has been practiced with form of apprenticeship for long period of time, resulting in the unclear formation of teaching, depending on the students' chances to encounter and learn. In case of any kind of patients, after logbook has been used, the details and objectives of learning to know the diseases and patients characters that should be experienced by students before graduation can be applied, causing the teaching to be more systematic and logbook has been used as an assistant for teaching in the medical schools inside and outside the country for the formative and summative assessment. For example, the medical school at the University of Nottingham the system has been used with students in the third, fourth and fifth classes in various units such as introduction of medicine and surgery. The system application requires the signature of instructor with whom the students have been taking part in the activities or practicing and the information has been used for the benefit of developing the teaching after the learning has been passed for certain period. The teaching result has been used as part of the assessment on the knowledge, skill, attitude, thinking and enthusiasm of students<sup>(1)</sup>.

The meaning of logbook in this case is what have been noted by students for their learning experiences during the clinical class study. The details include the patient's information encountered by students, patient case teaching, observation of the treatments, etc. The logbook can reflect the teaching process and the use of logbook can also help students to know that on what case or symptom of the patient should be encountered by them during the practice at that certain period. The logbook characteristics may be divided into groups as handwritten, optical scanned and electronic logbook. Using the paper for noting the record may have the problem on storage and the reading of student's handwriting. Similarly, using the scanner may have caused the problem on the classification of information. Today the digital technology has been applied for use in building formation, storage and recording convenience. The study and presentation on the ideal logbook characteristics have been made to know about their properties<sup>(2)</sup>.

**Table 2 the ideal logbook characteristics**


---

<b>Recommendations—Logbook Systems should:</b>
Be highly acceptable to students—at least 90% completion rate
Be highly specific—at least 90% (minimal overreporting)
Be moderately sensitive—at least 70% (infrequent underreporting)
Allow timely, easy data analysis
Allow summation of problems into common categories
Have appropriate content validity—measure what the clerkship director wants to measure
Be feasible to clerkship director
Be cost-effective

---

The arrangement for the teaching in the clinical class has been rotated for the apprenticeship in various units to gain clinical experiences in becoming the experienced doctors in taking care of the patients. Students should earn the experiences in taking care of patients with different problems and totally achieve their learning objectives under the instructors' supervision. In using the logbook the feedback information is given to students during the teaching without putting them into the tense situation as in the medical school of University of Maastricht the logbooks are used in ENT, pediatric and ophthalmological units with the recommendation of use on the first page of the logbook, including the inquiry of the application in different headings such as the ability to complete the logbook within one day, the recording simplicity and ability in assisting the students' learning activities<sup>(3)</sup>.

Clinical logbook application has been widely practiced in the clinical learning units that enable the students to become the assistant in teaching at out-patient examination room which can be decided into following steps: First, students' observation of instructor's examination; second, students express their opinions from their observation; Third, the students start to practice under the supervision and finally, the students are capable of doing it by themselves<sup>(4)</sup>.

Clinical logbook is used for monitoring the students' clinical experiences and enables the feedback information to be reflected back to the students for the benefit of their inferior improvement. In the Netherlands, the logbook has been produced by Faculty of Medical Sciences of the University of Groningen to study the reliability of the logbook as the most important instrument as it can also be used for the assessment with the details consisting of the symptom of pathological disease in other groups of diseases for students to logged into their logbook which shall be collected once a week for making the copies for keeping with the details of recording of two groups consisting of students who compared their information earned during the same period and the result was that some information of students and instructors are not conformed to each

other, for example, the record of number and types of diseases are less details than it should be and the medical instructor's advice as well as provision of reflecting information are still considered to be important for this logbook application<sup>(5)</sup>.

The application of this logbook is the recording of activities occurred during the clinical class instruction. The application of logbook was reported as the connection for the learning and teaching of students and instructors at the Faculty of Medicine. The university of Hong Kong where the logbook was designed to be conformed to the teaching and learning activities such as bedside subject time table, clinical instruction, classroom instruction. After the end of classroom instruction, things recorded by students shall be examined on whether or not they were conformed to the prepared activity timetable, using tangible assessment criteria for each part. It was found that the application of logbook in part of continuous assessment can be considered effective and the feedback will help encouraging students and instructors to be more communicated<sup>(6,7)</sup>.

Apart from using the logbook in the pre-grade level, it was also been used in the post-grade education such as the medical specialist training for general surgery, European Board of Surgery Qualification in Vascular Surgery training. In Italy the logbook has been used since 1996 by dividing into different sections such as details of surgery, including the reflection of learning experience<sup>(8)</sup>. In addition, the treatment records have been used in the study as well as to prepare the patients before the surgery and to look after the patients after the surgery. The design has caused the application and assessment easy to be performed, including the availability of the assessment result for the improvement during the surgery<sup>(9)</sup>. The logbook has been used in the surgical instruction as part of the study. Since their working has been rotated to be done at different locations the logbook can help them to track down their studies as well as their personal activities<sup>(10)</sup>. In addition, the logbook has also been used for the instruction of anesthetists, beginning with the use of paper to record the names of patients they learned from as well as the various types of anaesthetization, including for use in the admission of candidates for further study by seeing from their experiences shown in the logbooks<sup>(11,12)</sup>.

Using logbook for monitoring the students' learning is to make the learning to be performed systematically, help the students to have their own guidelines and know that in what cases of the patients they must encounter before graduation as the experienced doctors, showing that they have already achieved their studying objectives. The thorough researches have been made to know whether or not having more clinical experiences would be related to the study performances, for example, whether or not the students who have been involved with lots of patients or having more clinical experiences would have been related to the points of examination in various levels. The result of study found that there was no relationship between having the clinical experiences and the points of written examination and the increase of patients was not

cause the MCQ examination to be increased<sup>(13, 14)</sup>. Apart from having been used in the medical study, it is also used in other parts of education relating to the other health education such as nursing where the logbook has been found to be used for supplying the feedback information in the clinical practices<sup>(15)</sup>.



## CHAPTER III

### METHODOLOGY

#### Research Design

Qualitative and Quantitative method

Cross-Sectional Surveys

#### Setting

The department of surgery BMA Medical College and Vajira Hospital.

#### Population

In this research, the researcher would like to find an opinion of all faculties and 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> year medical students.

- Surgical staff N = 46

- Medical students study in academic year 2011 in Faculty of Medicine Vajira Hospita:

4<sup>th</sup> year N = 81

5<sup>th</sup> year N = 79

6<sup>th</sup> year N = 80

Total N = 240

- Exclusion criteria
  - Faculties who are not on duties during a research period.
  - Medical students who are rotating outside the institution during a research period.
  - Medical students who have never used Logbook in the Department of surgery.
  - Medical students in the pilot group are not excluded.

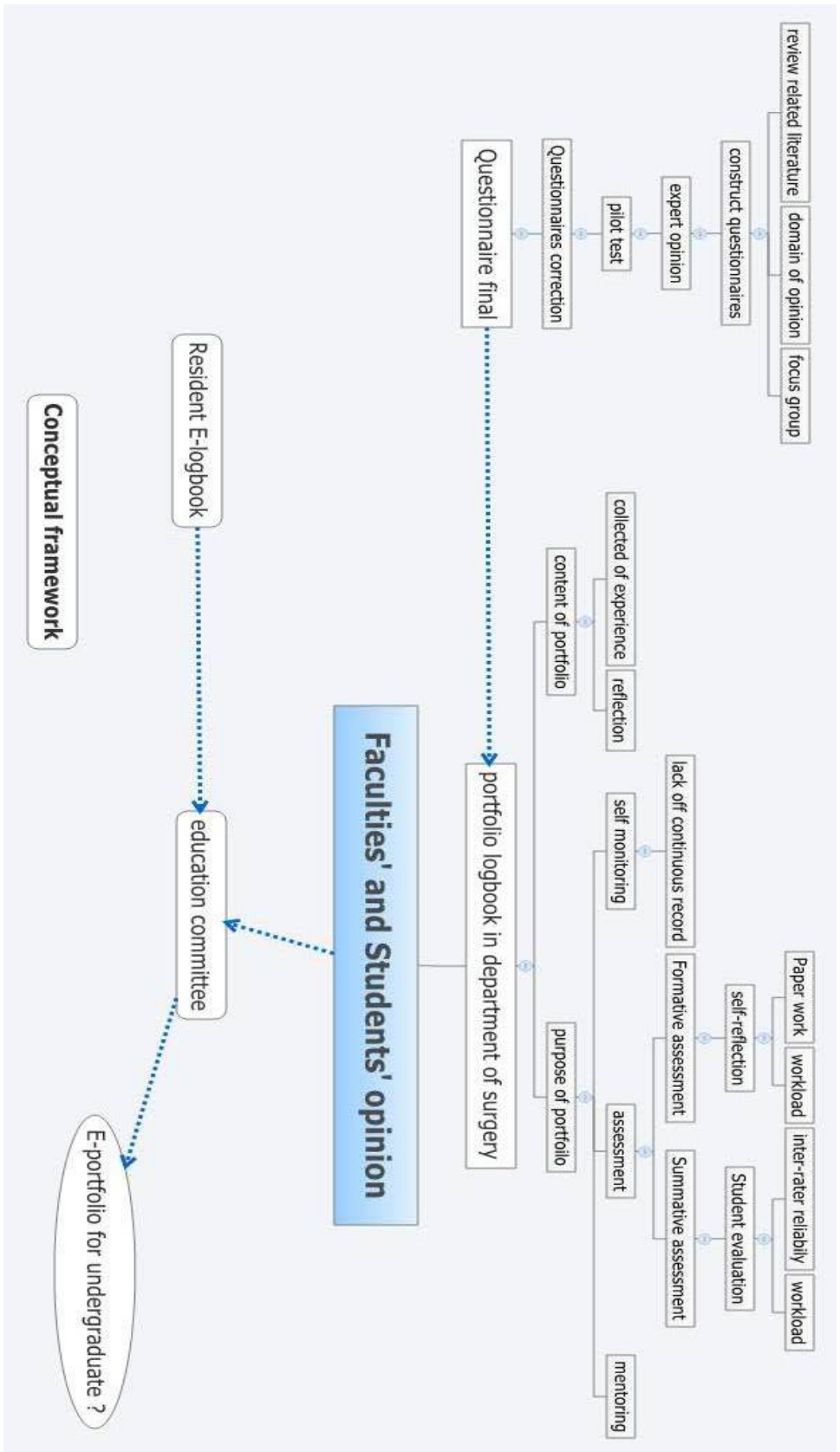
#### Research Question

What are the opinion of surgical staffs and medical students toward the Logbook?

#### Conceptual Framework

Faculty's and Medical Students' Opinion towards the Use of Logbook at the Department of Surgery

FIGURE 1 Conceptual Framework



**Key words**

Opinions

Logbook

Log

**Operational Definition**

Logbook in department of surgery BMA and Vajira hospital is compose with 2 parts:

Part of experience collection (logbook) and evaluation part.

**Construction the questionnaire**

Qualitative strategies used for data collection at this stage included group interviews and open end questionnaires. In this study, the group interviews used was a combination of the focus group, the nominal group. The process of nominal group technique involves:

1. Presentation of questions
2. Silent phase
3. Item generation
4. Item clarification and individual commenting on items
5. Item grouping
6. Item prioritization

The group interview has 4 steps.

Step 1 introduction

Step 2 presentations of the questions

Step 3 silent phases

Step 4 group discussion

The 18 participants (5= 4<sup>th</sup> year medical students, 5=5<sup>th</sup> medical students, 5=6<sup>th</sup> year medical students, and 3= surgical doctors) were dated to discussion for all data about the logbook and related interesting data in this research to classified for main item later.

Steps in constructing and administering the questionnaire

Step 1: defining research objective

As objectives of this research in the above title

Step 2: selecting a sample

As the above title

Step 3: design the questionnaire

Adapted and developed from a focus group discussion of participants

Step 4: pilot-testing questionnaire

Step 5: pre-contacting the sample

Step 6: writing a cover letter

Step 7: following up with non-respondents

Step 8: analyzing questionnaire data

The researcher constructed questionnaires after data collection from qualitative strategies at the beginning of the research by a thorough review of the literature and group interview. The questions were tested in a pilot group by asking an open-ended question form of a small number of respondents. The questionnaires may consist of 3 sections.

Section 1: General section for identification of respondents.

Section 2: Closed- ended questions to assess the opinion of surgical staffs and medical student about portfolio logbook.

Section 3: Opened-ended questions

Each domain may categorize into one of the following major groups or other:

1. Content
2. Support teaching and learning process
3. Assessment process
4. Direction of logbook

A response was leveled according to a Likert's 5-point scale.

strongly disagree	= 1
disagree	= 2
undecided	=3
agree	=4
strongly agree	= 5

The researcher had consulted the three experts in the field to review the questionnaires independently for an improvement of the content and format of the questions. The questionnaire was personally hand-delivered to each expert. The items were evaluated in terms of the content validity, internal consistency, language, wording, and lay out of the questionnaires.

The score given by the experts were as follow.

+1	= relatively valid item
0	= not sure
- 1	= relatively irrelevant

The scores from each item were calculated to demonstrate the validity of each by summing the value from each expert. The value of content validity should be more than or equal to 0.5 to be acceptable for this research. The formula of the Item Correlation is shown below.

$$IC = \sum \frac{R}{N}$$

**R = total score of that item**

**N = number of experts**

Cronbach's Alpha coefficient by the SPSS version 11.0 statistical software (Chicago, Illinois) was selected to test the Internal Consistency Reliability of the questionnaire. The technique which requires only a single administration has advantage over the Test-retest and Alternative-form methods which requires two testing situation. The acceptable value is Cronbach's coefficient  $\alpha$  that is equal to or higher than 0.8.

The formula of the alpha coefficient is as follow:

$$\alpha = \frac{n}{n-1} \left\{ 1 - \frac{\sum Si^2}{St^2} \right\}$$

Where  $n$  = No. of items

$$Si^2 = \text{item Variance} = \frac{\sum (x - \bar{x})^2}{n-1}$$

$$St^2 = \text{total Variance} = \frac{n \sum xt^2 - (\sum \bar{xt})^2}{n(n-1)}$$

After the tests of content validity and reliability, the questionnaires are piloted on unselected five surgical staffs and ten medical students in the Department of Surgery. The subjects were requested to complete the questionnaires and gave suggestion for any mistakes or pitfalls. The data obtain from subjects were analyzed and corrected accordingly before they were used to assess the opinion of faculty and medical students toward the Logbook.

#### **Data collection**

A list of surgical staffs and medical students will be obtained from an administrative office of the Department of Surgery. The researcher will directly contact the participants individually for the faculty members and set up a session outside the classroom for medical students to explain the objective of the study and to request for a co-operation to answer the questionnaires.

Questionnaire including coversheets will be completed sealed and separated into 2 groups of surgical staffs and medical students. An envelope having printed the researcher's name and address will be provided along with the questionnaires.

#### **Data analysis**

Data were analyzed using the Statistical Package for Social Science (SPSS) version 11.0 and Microsoft Excel 2011 for MAC. Descriptive statistics were used for demographic data and summarized as mean with standard deviation, median with range, or frequency with percentage.

#### **Ethical consideration**

An approval from the Ethical committees of the institution and Bangkok Metropolitan Administration will be obtained before the study is conducted. This study is expected to have no ethical impact because the Logbook is routinely used as an educational tool of assessment in the

Department of Surgery. The Faculty and medical students who were informed about the objective of the study obtained data from a self-answered survey questionnaire. All will be consent to participate into the study.

#### **Limitation (NOT RELEVANT)**

The result of this study is opinion to portfolio logbook that uses in department of surgery BMA and Vajira Hospital. The purpose, content, detail of mark, and other environment are different in institute. The questionnaire are used in this study may not use in differential place and different populations.

Certain numbers of medical students and attending staffs were to be excluded and limited the number of participants: some 4<sup>th</sup> year medical students have never rotated in the Department of Surgery during the research and some 6<sup>th</sup> year students who were rotating in training sites outside BMA Medical College and Vajira Hospital, or some attending staffs who had not involved in portfolio logbook before.

#### **Expected benefit and Application**

Knowing the opinions of the surgical staffs and medical student to the portfolio logbook will assist the committee to reform the portfolio logbook appropriately. Data obtained will also be useful for a development of an electronic portfolio in the near future.

#### **Obstacle**

In clinical learning medical students was divided to 3-6 group practice in Faculty of Medicine Vajira Hospital, rural hospital, and other primary care unit during time of study. This reasons lead to loss of participants.

## CHAPTER IV

### RESULTS

#### Response rate

For the faculty members, 36 out of 46 questionnaires were returned. The response rate was 78 %. 7 faculties were excluded because they did not have experience in use logbook.

For medical students, 199 out of 240 questionnaires were returned. The response rate was 83 %.

Table 3: Percentage of respondents by year of study.

Year	Percentage of respondents
4	85
5	91
6	72

#### Results from section 1

##### General information

##### Sex

Table 4: Percentage of the faculty members classified by sex

Sex	Frequency	Percent
Male	32	89
Female	4	11
Total	36	100

Table 5: Percentage of the medical students classified by sex

Sex	Frequency	Percent
Male	90	45
Female	109	55
Total	199	100

##### Position

Table 6: Percentages of years of practice as medical students.

Year	Frequency	Percent
4	73	37
5	72	36
6	54	27
Total	199	100

##### Experience in using the logbook

All medical students have experience using the logbook.

Up to 81% of medical faculties have experience using the logbook while 19 % have never used the logbook.

**Result from section 2****Closed-end questions****Table 7** Medical students' opinion toward use of the logbook, Department of Surgery, Bangkok Metropolitan Administration Medical College and Vajira Hospital

	Description	Mean	S.D.	Rating
1	Logbook is clear covering items to be recorded.	3.78	0.76	Agreed
2	Logbook looks smart and portable.	2.91	1.08	Uncertain
3	Logbook is proper in details and number of operations.	3.18	0.88	Uncertain
4	Practice Record Form for outpatient rooms and surgery rooms are proper.	3.48	0.83	Agreed
5	Overtime Practice Record Form is proper.	3.49	0.89	Agreed
6	OPD/OR Evaluation Form is proper.	3.51	0.82	Agreed
7	Number of sheets for recording is adequate throughout a course	3.64	0.86	Agreed
8	I'm happy and enjoy recording in logbook.	2.25	1.00	Disagreed
9	Scores and workload ratios are proper.	3.07	0.80	Uncertain
10	Recording into logbook takes too much time.	3.97	0.91	Agreed
11	Recording can be done immediately following activities.	2.50	0.99	Disagreed
12	It is applicable to knowledge review for exams.	2.84	0.97	Uncertain
13	Instructions on recording are clear.	3.29	0.90	Uncertain
14	It includes evaluation criteria for logbook.	3.54	0.84	Agreed
15	It includes objectives for the use of logbook.	3.63	0.79	Agreed
16	Logbook stimulates self-learning.	3.03	1.09	Uncertain
17	Signing by faculties is possible within 24 hours.	2.29	1.12	Disagreed
18	What's recorded in the logbook is necessary for learning.	3.66	0.77	Agreed
19	Logbook is useful in building a learning experience.	3.39	0.94	Uncertain
20	Recording into logbook is mostly realistic.	3.09	1.09	Uncertain



21	Logbook application is complex and wastes time in recording.	3.61	1.00	Agreed
22	Evaluation is accurate and mostly corresponds to reality.	2.97	0.97	Uncertain
23	Logbook recording represents achieving the learning goal.	2.67	1.09	Uncertain
24	Logbook recording represents the actual competence of students.	2.35	1.11	Disagreed
25	The same logbook should be used.	2.62	0.94	Uncertain
26	The medical student's logbook should be withdrawn.	3.24	1.02	Uncertain
27	The medical student's logbook should be upgraded	4.05	0.95	Uncertain

**Table 8** Faculties' opinion toward the use of the logbook, Department of Surgery, Bangkok Metropolitan Administration Medical College and Vajira Hospital

	Description	Mean	S.D.	Rating
1	Logbook is clear covering items to be recorded.	3.45	0.93	Agreed
2	Logbook looks smart and portable.	3.38	1.03	Agreed
3	Operative works recorded is accorded with Requirements of the Medical Council of Thailand.	3.48	0.77	Agreed
4	Practice Record Form for outpatient rooms and surgery rooms are proper.	3.41	0.93	Uncertain
5	Overtime Practice Record Form is proper.	3.14	0.86	Uncertain
6	OPD/OR Evaluation Form is proper.	3.00	1.02	Uncertain
7	Scores ratio is proper.	3.00	0.74	Uncertain
8	Examining a logbook consumes much time	3.38	0.76	Uncertain
9	Examining logbook can be done immediately following activities	3.31	1.12	Uncertain
10	It is applicable to knowledge review for exams.	3.24	1.13	Uncertain
11	Knowing medical student's assessment criteria	3.31	1.02	Uncertain
12	It includes evaluation criteria for logbook.	3.31	0.88	Uncertain
13	It includes objectives for the use of logbook.	3.59	0.72	Uncertain

14	Logbook stimulates self-learning.	3.21	1.06	Uncertain
15	Students with signed logbook are recognized for their real performance	3.03	1.13	Uncertain
16	What's recorded in the logbook is necessary for learning.	3.62	0.72	Uncertain
17	Logbook is useful in building a learning experience.	3.59	0.67	Uncertain
18	Recording into logbook is mostly realistic.	2.86	1.07	Uncertain
19	Logbook application is complex and wastes time in recording.	2.90	0.99	Uncertain
20	It's convenient to examine after class.	3.34	0.84	Uncertain
21	Evaluation is corresponding to the requirements mostly.	3.31	0.70	Uncertain
22	Logbook recording represents achieving the learning goal.	2.90	0.99	Uncertain
23	Logbook recording represents the actual competence of students.	2.76	1.04	Uncertain
24	The same logbook should be used.	2.97	1.16	Uncertain
25	The medical student's logbook should be withdrawn.	2.90	1.18	Uncertain
26	The medical student's logbook should be upgraded	3.76	1.07	Agreed

Table 9 Match the same question

	Descriptions	Faculties		Medical students	
		Mean	SD	Mean	SD
1	Logbook is clear covering items to be recorded.	3.42	0.86	3.78	0.76
2	Logbook looks smart and portable.	3.42	0.95	2.91	1.08
3	Practice Record Form for outpatient rooms and surgery rooms are proper.	3.39	0.89	3.48	0.83
4	Overtime Practice Record Form is proper.	3.14	0.82	3.49	0.89
5	OPD/OR Evaluation Form is proper.	3.11	0.99	3.51	0.82
6	Examining a logbook consumes much time/ Recording into logbook takes too much time.	3.47	0.76	3.97	0.91
7	Evaluation can be done immediately after ending class/ Recording can be done immediately following activities.	3.19	1.13	2.50	0.99

8	It is applicable to knowledge review for exam	3.17	1.07	2.84	0.97
9	It includes evaluation criteria for logbook.	3.25	0.94	3.54	0.84
10	It includes objectives for the use of logbook.	3.53	0.73	3.63	0.79
11	Logbook stimulates self-learning.	3.19	1.02	3.03	1.09
12	What's recorded in the logbook is necessary for learning	3.56	0.72	3.66	0.77
13	Logbook is useful in building a learning experience.	3.56	0.68	3.39	0.94
14	Recording into logbook is mostly realistic	2.89	1.07	3.09	1.09
15	Logbook application is complex and wastes time in recording	3.03	1.01	3.61	0.99
16	Logbook recording represents achieving the learning goal	2.94	0.94	2.67	1.09
17	Logbook recording represents the actual competence of students	2.72	1.02	2.35	1.11
18	The same logbook should be used.	2.92	1.12	2.62	0.94
19	The medical student's logbook should be withdrawn	2.97	1.14	3.24	1.02
20	The medical student's logbook should be upgraded	3.72	1.02	4.05	0.95

Faculties and students agreed with “A Logbook clearly covers items to be recorded.” 50 % of faculties and 71.36 % of students agreed opinion toward the use of logbook in this item. Results show that logbooks cover items and give a clear record. Faculties agreed with “Logbook looks smart and portable.” But students had uncertain opinion toward the use of logbook in this item. 63.89% of faculties were agreeing that logbook looks smart and portable but student uncertain opinion with this. Students would like to have a smart and portable logbook. Researcher should develop small size and smart logbook. Rating from mean shown that faculties were uncertain in record form for outpatient and operating room proper. Students were agreeing with this record form. 55.56% of faculties and 54.78% of students were agreeing with practice record form for out patient and operating room is proper. Rating from mean shown that faculties were uncertain in record form for overtime practice. Students were agreeing with this record form. 36.11% of faculties and 57.78% of students were agreeing with practice record form for overtime. Rating from mean shown that faculties were uncertain in evaluation form for outpatient and operating room proper. Students were agreeing with this valuation form. 41.67% of faculties and 56.79% of students were agreeing with valuation record form for out patient and operating room is proper. Faculties and students were agreeing opinion toward the time consuming in logbook. 52.78% of faculties and 75.37% of student were agree opinion toward the time consuming in examine and record logbook. Faculties were uncertain opinion in evaluating shortly after finishes activities. Students were disagreeing opinion in recording immediately following activities. 50% of faculties were agreeing that logbook could be evaluated immediately after ending of class. 55.78% of students were disagreeing, recording logbook can not done immediate following activities. Faculties and students were uncertain that logbook could

be use to review knowledge for examination. Faculties were uncertain that they know evaluation criteria for logbook. Students were agreeing they know evaluation criteria. Some of faculties were evaluations logbook while the rest were not. Assessment criteria were printed in logbook so students were known the criteria. 56.28% of students were agree that they know assessment criteria. Faculties and students were agreeing to know objectives for the use of logbook. 61.11% of faculties and 63.32% of students were agreeing to know objectives for the use of logbook. Faculties and students were uncertain opinion that logbook can stimulates self-learning. Faculties and students were agreeing that recording in logbook is necessary for learning. 63.89% of faculties were agree toward recording in the logbook is necessary for learning. 61.81% of students were agree toward recording in the logbook is necessary for learning. 61.11% of faculties were agree with the logbook is useful to build a student's learning experience but students were uncertain about this. Faculties and students were uncertain that content in logbook is realistic. Faculties were uncertain about complex and wastes time in recording logbook. Students were agreeing those logbooks are complex and wastes time in use. 57.79% of students were agreeing. Faculties and students were uncertain that achieving the learning goal by recording logbook. Faculties and students were uncertain that logbook recording represents the actual competence of students. Faculties and students were uncertain that should continue used the same logbook. Faculties and students were uncertain that should be withdrawn the logbook. Faculties and students were agree that logbook should be 50% of faculties were agree with the detail in logbook are according with Medical Council of Thailand. Faculties were uncertain about score ratio. Faculties were uncertain in assessment criteria for logbook. Faculties were uncertain about identified medical student whom practices. Faculties were uncertain toward to examine the logbook are convenient. Faculties were uncertain about evaluation is corresponding to the requirements mostly. Students uncertain about detail and number of operative work in logbook are proper. Students were agree with logbook had enough sheet for learning period. 63.82% of students were agreeing, 58.88% of students were disagree with enjoy writing logbook. Students were uncertain about proper of score and workload. Students were uncertain that instruction is clear. Students were disagreeing that logbook can signing within 24 hr. 62.81% of students were disagree. Students were uncertain about the accurate of evaluation are realistic.

## **Results from section 2**

### **Open-end question**

In part of the open-end question, the questionnaire responders voiced their opinions on the matter of size whether or not the size should be adjusted to be smaller and more concise that can be put in the gown without folding it. The number of pages should be sufficient for recording the details since some students who need to search for more knowledge wanted to have more pages added and they wanted their logbooks to be sent back to them for the review. However, the

opinions of the two parties were not identical as one party thought that recording was the duplicated working and was unable to measure the knowledge from what have been recorded in the logbook, supported by the problem on the countersigning to show that such activities had been truly performed could not be done immediately. After the time has passed some instructors could not remember whether or not the students had performed those activities, which would be resulted in the decreasing of the logbook reliability. Furthermore, some students believed that the logbook was written without really performing those activities. Some opinions proposed that the measurement would be designed to measure which student is a good person.

## CHAPTER V

### DISCUSSION AND CONCLUSION

The use of logbook for the operation can be considered as multiple advantages, for example, it can be used for the teaching and learning assessment that can be linked to the theory and practice, however it is the time consumption for recording and assessment. The use of equipment for the study assessment in the pre-grad level may be for the collection of students' works during their study and the marks and recommendations should be given as the guidelines.

To improve pieces of work for the better with the use of logbook, we have to consider the objectives of application, what to be kept in the logbook and the assessment process contains different procedures that must be considered, for examples, the reliability of the assessment, the recognition of concerned persons such as instructors and students and finally, the ability for the actual working.

In part of the working assessment, the problem is the uneven points given by the assessors. The provision of advices and assessment training is quite necessary and more important if the result of assessment was used as part of the study performance decision in which some studies indicated that the values assessment result reliability by the assessors are not high enough for use as the decision working. The use of logbook for providing advices and for the improvement of the study performance has the positive response. There are the assessment of satisfaction among the users, i.e. instructors and students, in each institution where the logbooks are introduced. The questionnaires are designed for use in surveying the application satisfaction with the open-end questions and close-end questions. The working logbooks have been used in the Department of Surgery for longer than 10 years and has also been continuously improved and developed. The records have been noted for the surgery of its own for the instruction in the resident doctor level, which in the present the record is made through Internet networks. The use of paper and the recording through the website show no difference in comparison in term of contents and quality but it is more convenient for the application in the form of website that can build more motivation for the application than studying in the clinical classes. The medical students shall be divided into small groups for practicing inside and outside the departments of the Faculty of Medicine, Vajira Hospital which may have caused the collection of questionnaires to be done with difficulty and the researchers must collect parts of questionnaires by themselves and the number of questionnaires would not be completely collected

The result of this research has made the Department to know about the opinions of instructors and medical students to the use of working logbooks in the present situation for the benefit of improvement and it may be developed in the form of electronic logbook as having been used by resident doctors. As the Department is a training institute for issuing the certificate or

diploma showing the knowledge and skill in practicing surgical treatment, the resident doctors must record the patient case report and their surgical experiences accumulated from the 1<sup>st</sup> year to the 4<sup>th</sup> year as the evidence for the examination to earn the certificates or diplomas, showing the knowledge and skills in practicing the surgical treatment. The recording may begin with the paper and has been developed to the present using as the recording through the website of the Royal College of Surgeons of Thailand. The advantage is that the surgical experience of the resident doctors can be continuously assessed and this system is supported by Department of Surgery. The electronic logbook has been used in the foreign countries<sup>(16)</sup> in substitution of paper as in the Association of Surgeons of Great Britain and Ireland (ASGBI) where the electronic logbook is used for assisting the surgery the same as using the computer base logbook in Australia. This type of action enables the students' logbook to be monitored and can be used as the overall database for monitoring the instruction of that individual institute<sup>(17)</sup> for this concept to be used as the development guidelines for use with the pre-grade education.

What should be extraordinarily interested in is that up to seven medical instructors responded to the questionnaires that they had no experience in using the working logbooks and had never used them for the calculation of statistical value, showing that the communication should be improved and the medical instructors should be explained to know about their own roles and duties in using the working logbooks. In addition, the research result showing the opinions of instructors and students to the working logbooks, many of them were uncertain about the application of working logbooks.

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Appendix  
Sample of logbook

(Portfolio logbook)  
Department of surgery

Bangkok Metropolitan Administration Medical College and Vajira Hospital

**Name**.....

**Number**.....

**Groups**....

**Date of rotation**.....

<i>Surgical skill</i> .....	<i>Indication</i> 1.....2.....3.....
<i>Date</i> .....	.....
.	<i>Step of surgical procedures</i>
<i>Sign</i> .....	1.....
....	2.....
	3.....
	4.....
	5.....
	6.....
	<i>Complications</i>
	1.....2.....3.....
	.....

<b><i>Day time record activity/experience</i></b>
<i>Date.....</i>
<i>Place</i> <input type="checkbox"/> <i>OPD</i> <input type="checkbox"/> <i>OR major</i> <input type="checkbox"/> <i>OR minor</i>
<i>Question/Homework</i>
<i>Learning experience</i>

<b><i>Night time record activity/experience/reflection</i></b>
<i>Date</i>
<i>Experience</i>
<i>Reflection</i>

Medical students' opinion toward use of the logbook, Department of Surgery, Bangkok  
Metropolitan Administration Medical College and Vajira Hospital

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	Description
1	Logbook is clear covering items to be recorded.
2	Logbook looks smart and portable.
3	Logbook is proper in details and number of operations.
4	Practice Record Form for outpatient rooms and surgery rooms are proper.
5	Overtime Practice Record Form is proper.
6	OPD/OR Evaluation Form is proper.
7	Number of sheets for recording is adequate throughout a course
8	I'm happy and enjoy recording in logbook.
9	Scores and workload ratios are proper.
10	Recording into logbook takes too much time.
11	Recording can be done immediately following activities.
12	It is applicable to knowledge review for exams.
13	Instructions on recording are clear.
14	It includes evaluation criteria for logbook.
15	It includes objectives for the use of logbook.
16	Logbook stimulates self-learning.
17	Signing by faculties is possible within 24 hours.
18	What's recorded in the logbook is necessary for learning.
19	Logbook is useful in building a learning experience.
20	Recording into logbook is mostly realistic.
21	Logbook application is complex and wastes time in recording.
22	Evaluation is accurate and mostly corresponds to reality.

- 23 Logbook recording represents achieving the learning goal.
  - 24 Logbook recording represents the actual competence of students.
  - 25 The same logbook should be used.
  - 26 The medical student's logbook should be withdrawn.
  - 27 The medical student's logbook should be upgraded
- 

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Faculties' opinion toward the use of the logbook, Department of Surgery, Bangkok Metropolitan Administration Medical College and Vajira Hospital

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Description

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- 1 Logbook is clear covering items to be recorded.
- 2 Logbook looks smart and portable.
- 3 Operative works recorded is accorded with Requirements of the Medical Council of Thailand.
- 4 Practice Record Form for outpatient rooms and surgery rooms are proper.
- 5 Overtime Practice Record Form is proper.
- 6 OPD/OR Evaluation Form is proper.
- 7 Scores ratio is proper.
- 8 Examining a logbook consumes much time
- 9 Examining logbook can be done immediately following activities
- 10 It is applicable to knowledge review for exams.
- 11 Knowing medical student's assessment criteria
- 12 It includes evaluation criteria for logbook.
- 13 It includes objectives for the use of logbook.
- 14 Logbook stimulates self-learning.

- 15 Students with signed logbook are recognized for their real performance
  - 16 What's recorded in the logbook is necessary for learning.
  - 17 Logbook is useful in building a learning experience.
  - 18 Recording into logbook is mostly realistic.
  - 19 Logbook application is complex and wastes time in recording.
  - 20 It's convenient to examine after class.
  - 21 Evaluation is corresponding to the requirements mostly.
  - 22 Logbook recording represents achieving the learning goal.
  - 23 Logbook recording represents the actual competence of students.
  - 24 The same logbook should be used.
  - 25 The medical student's logbook should be withdrawn.
  - 26 The medical student's logbook should be upgraded
- 
-

## VITAE

Dr. Nataphon Santrakul was born on July 1, 1971 in Bangkok, Thailand. He obtained his medical degree from Srinakarintharawirote University in 1996. After working in Ang Thong Province General Hospital as an intern for one year, he joined three-year residency training in Department of Surgery Vajira Hospital. He works at Chonlaprathan Hospital for three year. He returned to be a consultation surgeon position in Department of Surgery, Vajira Hospital.